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Environmental Assessment

Lake of the Woods Land Allocation Change

Non-significant Forest Plan Amendment

Klamath Ranger District,

Fremont-Winema National Forest

Klamath County, Oregon



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Subject: Comments on the Lake of the Woods LSR Relocation

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SUMMARY

Proposed Action in Brief

The Fremont-Winema National Forest Supervisor proposes to amend the Winema National Forest Plan by changing land allocations on approximately 5,000 acres within the Klamath Ranger District. Specifically, the Forest Supervisor proposes to remove about 2,000 acres around Lake of the Woods from the system of Late-Successional Reserves (LSR) on the Klamath Ranger District. The Lake of the Woods area's underlying Winema National Forest Plan allocation of Developed Recreation (Administratively Withdrawn) would remain in place. The Forest Supervisor also proposes to add approximately 2,850 acres within the Cold Springs area to the system of LSR.

Why This Action Is Proposed

The area around Lake of the Woods (LOW) is currently allocated to Late-Successional Reserve, but is minimally suitable as habitat for species dependent on late-successional habitats. The Lake of the Woods area is about half water (not suitable as late-successional habitat) and receives high recreation use. The area is highly developed with several campgrounds, a resort, and approximately 220 recreational residences. The Forest Service and others have identified conflicts between management needed for the recreation area (such as hazard tree removal and fuels reduction) and conditions needed to benefit late-successional species (such as snags and down wood).

This proposal responds to two underlying needs:

- A higher quality LSR, than what currently exists around Lake of the Woods. The area around Lake of the Woods that is currently allocated to LSR is minimally functional.
- Consistency with Northwest Forest Plan by ensuring that the LSR on the Klamath Ranger District remains similar in size with improved function

Other Alternatives To Meet the Need

The Lake of the Woods Land Allocation Change Environmental Assessment (EA) considers the two additional action alternatives, which would remove LSR status from Lake of the Woods, and add LSR status to Burton Butte [Alternative 2] or remove LSR status from Lake of the Woods, and add LSR status Little Aspen [Alternative 3]).

What Would it Mean to Not Meet the Need?

Without action, the quality of LSR habitats near Lake of the Woods would continue to deteriorate while lands in the other areas continue to be managed in ways that might not maintain or enhance late successional conditions. Over time, habitats currently suitable for LSR, allocated to other uses, may lose their LSR suitability.

Factors in Making the Decision Between Alternatives

The Forest Supervisor will base the decision on the extent to which each alternative improves LSR function, while maintaining the size of the LSR network and remaining consistent with the Northwest Forest Plan. Additional decision factors include the potential effects of the land allocation change on vegetation (including timber and fire/fuels), grazing, and recreation management programs; soils and water; and special status plant, wildlife and fish species.

Effects of the Proposed Action and Action Alternatives

The most important effects of the Proposed Action and both action alternatives are:

- 1) Acreage of spotted owl nesting, roosting, and foraging habitat in LSR would be increased, without significant change in overall LSR acreage.
- 2) The Forest Service's ability to manage the LSR network to meet LSR objectives would be improved.
- 3) The Forest Service's ability to manage the Lake of the Woods recreation site would be improved.
- 4) The Matrix landbase would be reduced by about 2 percent. Forty to fifty million board feet of standing timber would no longer be available for programmed timber harvest from the Matrix land allocation.
- 5) Vegetation (including forest health and fire and fuels management) and recreation management complexity in the Cold Springs, Burton Butte, or Little Aspen parcels would be increased if any were selected for LSR status. Burton Butte has the most mixed ownership and development potential, thus there may be more potential for future conflicts there than within the other parcels. Burton Butte also has the only grazing allotment that could be affected if that parcel were allocated LSR (Alternative 2).

Mitigation and Monitoring

No ground-disturbing activities would be approved in any alternative. Mitigation measures would be applied at the project scale when/if ground-disturbing activities are proposed. These measures would be developed to meet standards applicable to each Forest Plan management area. Adherence to Forest Plan standards is expected to mitigate long term environmental risks related to National Forest management.

The Final Environmental Impact Statement (FEIS) for the Winema National Forest Land and Resource Management Plan led to the inclusion of a Monitoring Plan within Chapter 5 of the Forest Plan (pages 207-231). The Monitoring Plan identifies key activities and outputs to be tracked to ensure that activities reasonably conform to Management Area direction and that outputs satisfy the objectives of the plan. This project does not propose any additional monitoring because Forest Plan monitoring will be relied upon and is considered adequate.

INTRODUCTION

Document Structure

The Forest Service has prepared this Environmental Assessment in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. The document is organized into four parts:

- *Introduction:* This section includes information on the history of the project proposal, the purpose of and need for the project, and the agency's proposal for achieving that purpose and need. This section also details how the Forest Service informed the public of the proposal and how the public responded.
- *Comparison of Alternatives, including the Proposed Action:* This section discusses the existing Winema National Forest Plan allocations and how those allocations would change under each action alternative. This section also displays a summary table of the environmental consequences and other decision factors associated with each alternative.
- *Affected Environment and Environmental Consequences:* This section describes the affected environment and the environmental effects of implementing the No Action and each action alternative.
- *Consultation and Coordination:* This section provides a list of preparers and agencies consulted during the development of the environmental assessment.
- *Literature Cited:* This section provides a list of references consulted during the development of the environmental assessment.
- *Appendix A:* Appendix A provides detailed information to support the wildlife and habitat analyses presented in the environmental assessment.
- *Maps:* Maps are provided at the end of the document for ease of publishing and reference.

Proposal in Brief

The proposed action would change the Winema Forest Plan (as amended by the Northwest Forest Plan) allocation within approximately 2,000 acres adjacent to and including Lake of the Woods from Late-successional Reserve to its underlying allocation of "Developed Recreation" (Administratively Withdrawn).¹

¹ The Winema National Forest Plan and Northwest Forest Plan describe the management emphasis and direction for each land allocation. This information is readily available by contacting the Winema National Forest headquarters and incorporated by reference into this EA.

In addition, the allocation of approximately 2,850 acres in the Cold Springs area would be added to the system of LSRs (while retaining underlying allocations of scenic management, timber production and riparian area).

This proposal is relatively limited in scope. It does not seek to change to overall impacts of implementing the Winema Forest Plan, as amended by the Northwest Forest Plan.

The analysis area includes the Lake of the Woods parcel, the Cold Springs parcel, plus two alternative parcels considered for allocation to late-successional reserves. Please see the No Action (existing condition) map at the end of this EA for allocation information.

Purpose and Need for Action

This proposal responds to two underlying needs:

- A higher quality LSR, than what currently exists around Lake of the Woods. The area around Lake of the Woods that is currently allocated to LSR is minimally functional.
- Consistency with Northwest Forest Plan by ensuring that the LSR on the Klamath Ranger District remains similar in size with improved function

The area around Lake of the Woods is allocated to LSR, but is minimally suitable as habitat for species dependent on older forests.² The Lake of the Woods area is about half water (not suitable as late-successional habitat) and receives high recreation use. The area is highly developed with several campgrounds, a resort, and 220 recreational residences. The Forest Service and the public have identified conflicts between management needed for the recreation area (such as hazard tree removal and fuels reduction) and conditions needed to benefit late-successional species (high density of snags and down wood).

The *Developments* standard for LSR states: “Existing developments in Late-Successional Reserves such as campgrounds, recreation residences, ski areas, utility corridors, and electronic sites are considered existing uses with respect to Late-Successional Reserve objectives, and may remain, consistent with other standards and guidelines.” (ROD at C17).

The *Recreational Uses* standard for LSR states: “Dispersed recreational uses, including hunting and fishing, generally are consistent with the objectives of Late-Successional Reserves. Use adjustment measures such as education, use limitations, traffic control devices, or increased maintenance when dispersed *and developed recreation* practices retard or prevent attainment of Late-Successional Reserve objectives.” (ROD at C18, italics added).

This direction from the Winema Forest Plan, as amended by the Northwest Forest Plan, emphasizes the value of snags and coarse woody debris to the ecosystem. Lake of the Woods is a highly developed recreation complex and in many cases snags cannot be retained because they are considered to be hazard trees. Approximately 288 dead/dying/defected trees have been marked for felling within the recreation area (Moser, personal communication 2004).

²The term late-successional refers to a suite of conditions generally associated with older forests, indicated by large trees, canopy gaps, and standing dead and down wood. Detailed information about late-successional forests is available in Oregon Eastern Cascades LSR Assessment (USDA 1997).

The dead and dying trees typically identified as hazards to public safety are exactly what LSRs were created to protect. These are the types of trees that provide habitat for many old growth dependent plants and animals.

The purpose of this proposal is to ensure that the Late-successional Reserves within the Klamath Ranger District remain similar in size, while at the same time improving the Forest Service's ability to manage for desired late-successional characteristics. The Forest Service's ability to manage for desired LSR conditions is influenced by: net acreage of LSR retained, acreage of nesting and roosting habitat, acreage of dispersal habitat, acreage of critical habitat, occupancy by spotted owls, and connectivity (conditions and expected uses of adjacent lands).

Decision Framework

The Forest Supervisor will determine:

- 1) whether or not to select No Action or an action alternative
- 2) whether or not the selected alternative has significant environmental effects
- 3) whether or not the selected alternative is a significant amendment to the 1990 Winema National Forest Plan

The Forest Supervisor will base the decision on the extent to which each alternative improves LSR function, while maintaining the size of the LSR network and remaining consistent with the Northwest Forest Plan. Additional decision factors include the potential effects of the land allocation change on vegetation (including timber and fire/fuels), grazing, and recreation management programs; and soils, water, and special status plant, wildlife and fish species.

Additional documentation, including more detailed analyses of project-area resources, may be found in the project planning record located at the Klamath Ranger District Office in Klamath Falls, Oregon. This analysis is tiered to the Winema National Forest Land and Resource Management Plan Final Environmental Impact Statement (EIS) and the Final EIS's filed for the Northwest Forest Plan and other supplemental Forest Plan analyses.³

Background information about the Winema National Forest Plan and The Northwest Forest Plan is available by contacting the Jerry Haugen at the Winema National Forest headquarters in Klamath Falls, Oregon.

³The Northwest Forest Plan is the informal label for a set of Forest Planning documents including the Final Supplemental Environmental Impact Statement and Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl and Standards and Guidelines for Management of Habitat for Late-Successional and Old Growth Forest-Related Species Within the Range of the Northern Spotted Owl. The Northwest Forest Plan has been amended recently to address problems implementing with the survey and management mitigation measure and the Aquatic Conservation Strategy.

Public Involvement

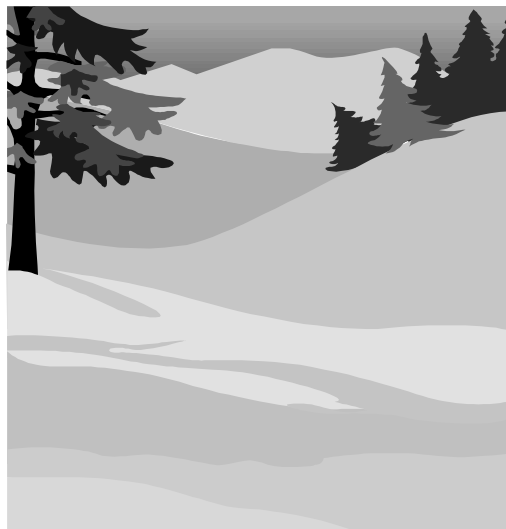
The proposal was listed in the Schedule of Proposed Actions beginning in the fall of 2003. The proposal was provided to the public and other agencies for comment during scoping in January 2004. Scoping also occurred with the Klamath Indian tribes, the Klamath Province Advisory Committee, and the Regional Ecosystem Office.

Scoping revealed substantial agreement with the Purpose and Need and the Proposed Action. No significant issues were identified – the decision factors of concern to the decision-maker (purpose and need) reflect the concerns of the public. Alternative Comparison in Chapter 2, based on analysis in Chapter 3, addresses the majority of public concerns expressed.

Two opposing points of view expressed during scoping are not addressed within this EA. One view is that all National Forest lands should be allocated to Late-Successional Reserve. The opposing view is that LSR designation should be lifted from Lake of the Woods but not added elsewhere. Neither of these points of views is within the scope of the EA. The purpose of this proposal is to ensure that the Late-successional Reserve within the Klamath Ranger District remain similar in size, while improving the Forest Service's ability to manage for desired late-successional characteristics.

Changing all lands to LSR would significantly increase the acreage in this allocation; removing LSR status from Lake of the Woods without adding new acreage would decrease the acreage within LSR and would not increase the Forest Service's ability to manage for desired characteristics.

The Forest Service initiated informal consultation with the Fish and Wildlife Service regarding this finding for proposal that all action alternatives would benefit northern spotted owl. In addition, the Forest Service initiated a review process with the LSR Working Group (for the Regional Ecosystem Office). Land allocation changes that affect LSR must be reviewed by this group. Meetings were held in May of 2003 and July 2004 to discuss the project. The LSR Working Group is expected to document their finding that all action alternatives meet LSR management objectives.



ALTERNATIVES, INCLUDING THE PROPOSED ACTION

This chapter describes and compares the alternatives considered for the Lake of the Woods land allocation change. It includes a description and map of each alternative considered. This section also presents the alternatives in comparative form, sharply defining the differences between each alternative and providing a clear basis for choice.

The Forest Plans

The Winema Forest Plan (LRMP) was approved in 1990 and includes management direction for each of the four areas. In 1994, the Northwest Forest Plan amended land allocations on Forests within the range of the northern spotted owl, including the Winema. The land allocations discussed in this analysis include Late Successional Reserves, Riparian Reserves and Matrix.⁴

Late Successional Reserves (LSR) in combination with the other allocations and standards and guidelines, are expected to maintain a functional, interactive, late-successional and old-growth forest ecosystem. They are designed to serve as habitat for late-successional and old-growth related species including the northern spotted owl. LSRs were established through a range of habitat types and elevation zones within the owls range. A primary reason was to try to ensure that negative influences in one portion of the range or one type of habitat would not have a negative impact on the entire population. It is unlikely that any single factor is primarily responsible for population declines and by providing the full range of environment heterogeneity within the LSRs, there is reason to believe that owl populations may vary in positive and negative ways across their range (NWFP FEIS, pg 3&4-232).

Riparian Reserves help maintain and restore riparian structures and functions, benefit fish and riparian-dependent non-fish species, enhance habitat conservation for organisms dependent on the transition zone between the upslope and riparian areas, improve travel and dispersal corridors for terrestrial animals and plants, and provide for greater connectivity of late-successional forest habitat.

Matrix is the area in which most timber harvest and silvicultural activities will be conducted. However, the Matrix does contain inclusions of non-forested areas as well as forested areas that may be technically unsuited for timber production. The Matrix land allocation is associated with many standards for environmental protection.

⁴ There are no Congressionally Reserved Areas within the four areas analyzed, but there are two Wilderness Areas that are adjacent to two of the areas. Inventoried roadless areas are also within and adjacent to the Cold Springs and Little Aspen parcels.

Several Winema National Forest land allocations underlay the Northwest Forest Plan allocations. These also direct land management by incorporating specific objectives, standards and guidelines. No change to underlying land allocations is proposed in any alternative.

In many cases, the overlapping land allocations increases management complexity, since some of the standards and guidelines may conflict. In Lake of the Woods, for instance, management direction related to Management Area 02, Developed Recreation, requires that snags be felled if they are public safety hazards. Lake of the Woods is also allocated to LSR, including management direction to retain these same snags if possible. The Northwest Forest Plan makes clear that in conflicting situations, the guidelines most beneficial to late-successional habitats should prevail (see USDA/USDI 1994a, Northwest Forest Plan Record of Decision).

Alternatives Considered In Detail

No Action (NA)

Under No Action, the Winema National Forest Plan would not be amended and no land allocation changes would be made. Table 1 displays current land allocation information (all acreages are approximate; inclusions smaller than 10 acres are not displayed.)

The present owner of Lake of the Woods Resort has improved its previous condition from that of an eyesore and rundown establishment to one that is safe, clean, and award winning (2002 Oregon Governor's Conference on Tourism). However, the establishment is marginally profitable and unable to expand due to restrictions imposed by LSR criteria.

The recreation facilities have reduced the Forest Service's ability to manage for levels of snags and coarse woody debris typical of late successional forest. Snags adjacent to and in recreation developments are subject to hazard tree removal. Recently, Forest employees identified approximately 200 hazard trees in the recreational residence portion of the LSR. The potential for further hazard tree removal is high with the acceleration of fungal decay in aging white fir.

Under No Action, the Lake of the Woods area would continue to be managed as part of the LSR. The quality of LSR habitats near Lake of the Woods would continue to deteriorate while lands in the other areas continue to be managed in ways that would not maintain or enhance late successional conditions. Table 1 displays the existing land allocations. The No Action map at the end of this EA depicts the current condition.

Scenic retention areas are also Winema National Forest Plan land allocations that underlie Matrix and other Northwest Forest Plan allocations. Scenic retention areas tend to have strict guidelines that limit amount, intensity and extent of anthropogenic disturbance.

Table 1. No Action Forest Plan Land Allocations

Northwest Forest Plan Management Area	Winema NF Plan Management Area	LOW	Cold Springs	Burton Butte	Little Aspen
		Acres			
LSR/ Administratively Withdrawn	02 Developed Recreation	471	0	0	0
Riparian in LSR/ Administratively Withdrawn	18 Riparian	1,228 (lake) 373 (creeks, around lake) 1601 total riparian	0	0	0
Matrix	03A Scenic Retention	0	0	245	0
Matrix	03B Partial Scenic Retention- Foreground	0	861	24	0
Matrix	03C Partial Scenic Retention- Middleground	0	146	877	0
Matrix	12 Timber Production	0	1,596	674	2,207
Riparian in Matrix	18 Riparian	0	242	0	28
Total Acres		2,072	2,846	1,820	2,235

Source: Winema National Forest Geographic Information System database

Alternative 1 – Remove LSR Designation for Lake of the Woods ; Add LSR Designation to Cold Springs (PREFERRED ALTERNATIVE)

Alternative 1 would change the Winema Forest Plan allocation of approximately 2,072 acres adjacent to and including Lake of the Woods from LSR to its underlying allocation of “Developed Recreation” (Administratively Withdrawn). This change would remove management direction related to LSR from Lake of the Woods. All other applicable management direction would remain.

At the same time, the allocation of approximately 2,846 acres in the Cold Springs area would be changed from Matrix (with underlying Forest Plan allocations of scenic management, timber production and riparian area) to LSR.⁵ The reason that the acreage exceeds the acreage of the Lake of the Woods parcel is that the suitable late-successional habitat within the parcel is interspersed with less suitable habitat; the parcel boundaries are configured to include the suitable habitat necessary to satisfactorily contribute to meeting LSR objectives.

Selection of this alternative would alter current management direction by requiring the Cold Springs area be managed to meet LSR objectives and comply with LSR standards and guidelines (see Northwest Forest Plan Attachment A). Table 2 displays the land allocations that would result if Alternative 1 were selected. Under Alternative 1, Cold Springs would be managed to retain its LSR characteristics and Lake of the Woods would be managed as a recreation site. No changes in allocation would occur in the Burton Butte or Little Aspen parcels. The Alternative 1 map at the end of this EA depicts the resulting land allocation distribution given selection of this alternative.

Alternative 2 – Remove LSR Designation for Lake of the Woods ; Add LSR Designation to Burton Butte

Alternative 2 would change the Winema Forest Plan allocation of the Lake of the Woods area from LSR to its underlying allocation of “Developed Recreation” (Administratively Withdrawn). This change would remove management direction related to LSR from Lake of the Woods. All other applicable management direction would remain.

At the same time, the allocation of approximately 1,820 acres in the Burton Butte area would be changed from Matrix (with underlying allocations of scenic management, timber production and riparian area) to LSR. For its smaller acreage, Burton Butte has a greater proportion of suitable late-successional habitat than any of the other parcels. Selection of this alternative would alter current management direction by requiring the Burton Butte area be managed to meet LSR objectives and comply with LSR standards and guidelines (see Northwest Forest Plan Attachment A).

Table 3 displays the land allocations that would result if Alternative 2 were selected. Under Alternative 2, Burton Butte would be managed to retain its LSR characteristics and Lake of the Woods would be managed as a recreation site. No changes in allocation would occur in the Cold Springs or Little Aspen parcels. The Alternative 2 map at the end of this EA depicts the resulting land allocation distribution given selection of this alternative

⁵ About 240 of these Cold Springs acres are currently allocated to Riparian Reserves and are therefore not part of the Matrix landbase. These acres would remain Riparian Reserves in all alternatives.

Table 2. Alternative 1 Forest Plan Land Allocations

Northwest Forest Plan Management Area	Winema NF Plan Management Area	LOW	Cold Springs	Burton Butte	Little Aspen
		Acres			
LSR	03B Partial Scenic Retention-Foreground	0	861	0	0
LSR	03C Partial Scenic Retention-Middleground	0	146	0	0
LSR	12 Timber Production	0	1,596	0	0
LSR	18 Riparian	0	242	0	0
Administratively Withdrawn	02 Developed Recreation	471	0	0	0
Matrix	03B Partial Scenic Retention-Foreground	0	0	24	0
Matrix	03C Partial Scenic Retention-Middleground	0	0	877	0
Matrix	12 Timber Production	0	0	674	2,207
Riparian in Matrix	18 Riparian	0	0	0	28
Administratively Withdrawn	18 Riparian	1,228 (lake) 373 (creeks, around lake) 1601 total riparian	0	0	0
Total Acres	--	2,072	2,846	1,820	2,235

Source: Winema National Forest Geographic Information System database

Table 3. Alternative 2 Forest Plan Land Allocations

Northwest Forest Plan Management Area	Winema NF Plan Management Area	LOW	Cold Springs	Burton Butte	Little Aspen
		Acres			
LSR	03B Partial Scenic Retention-Foreground	0	0	24	0
LSR	03C Partial Scenic Retention-Middleground	0	0	877	0
LSR	12 Timber Production	0	0	674	0
LSR	18 Riparian	0	0	0	0
Matrix	02 Developed Recreation	471	0	0	0
Matrix	03B Partial Scenic Retention-Foreground	0	861	0	0
Matrix	03C Partial Scenic Retention-Middleground	0	146	0	0
Matrix	12 Timber Production	0	1,596	0	2,207
Riparian in Matrix	18 Riparian	0	242	0	28
Administratively Withdrawn	18 Riparian	1,228 (lake) 373 (creeks, around lake) 1,601 total riparian	0	0	0
Total Acres	--	2,072	2,846	1,820	2,235

Source: Winema National Forest Geographic Information System database

Alternative 3 – Remove LSR Designation for Lake of the Woods ; Add LSR Designation to Little Aspen

Alternative 3 would change the Winema Forest Plan allocation of the Lake of the Woods area from LSR to its underlying allocation of “Developed Recreation” (Administratively Withdrawn). This change would remove management direction related to LSR from Lake of the Woods. All other applicable management direction would remain.

At the same time, the allocation of approximately 2,212 acres in the Little Aspen area would be changed from Matrix (with underlying allocations of scenic management, timber production and riparian area) to LSR. The Little Aspen parcel offers a substantial net increase in suitable late-successional habitat as compared to the Lake of the Woods parcel, with nearly the same total acreage involved.

Selection of this alternative would alter current management direction by requiring the Little Aspen area be managed to meet LSR objectives and comply with LSR standards and guidelines (see Northwest Forest Plan Attachment A).

Map 4 displays the land allocations that would result if Alternative 3 were selected. Under Alternative 3, Little Aspen would be managed to retain its LSR characteristics and Lake of the Woods would be managed as a recreation site. No changes in allocation would occur in the Burton Butte or Cold Springs parcels. The Alternative 3 map at the end of this EA depicts the resulting land allocation distribution given selection of this alternative.



Table 4. Alternative 3 Forest Plan Land Allocations

Northwest Forest Plan Management Area	Winema NF Plan Management Area	LOW	Cold Springs	Burton Butte	Little Aspen
		Acres			
LSR	03B Partial Scenic Retention-Foreground	0	0	0	0
LSR	03C Partial Scenic Retention-Middleground	0	0	0	0
LSR	12 Timber Production	0	0	0	2,207
LSR	18 Riparian	0	0	0	28
Matrix	02 Developed Recreation	471	0	0	0
Matrix	03B Partial Scenic Retention-Foreground	0	861	24	0
Matrix	03C Partial Scenic Retention-Middleground	0	146	877	0
Matrix	12 Timber Production	0	1,596	674	0
Matrix	18 Riparian	1,228 (lake) 373 (creeks, around lake) 1,601 total riparian	242	0	0
Total Acres	--	2,072	2,846	1,820	2,235

Source: Winema National Forest Geographic Information System database

Mitigation and Monitoring Common to All Alternatives

No ground-disturbing activities would be approved in any alternative. Mitigation measures would be applied at the project scale when/if ground-disturbing activities are proposed. These measures would be developed to meet standards applicable to each Forest Plan management area. Adherence to Forest Plan standards is expected to mitigate long term environmental risks related to National Forest management.

The Final Environmental Impact Statement (FEIS) for the Winema National Forest Land and Resource Management Plan led to the inclusion of a Monitoring Plan within Chapter 5 of the Forest Plan (pages 207-231). The Monitoring Plan identifies key activities and outputs to be tracked to ensure that activities reasonably conform to Management Area direction and that outputs satisfy the objectives of the plan. This project does not propose any additional monitoring because Forest Plan monitoring will be relied upon and is considered adequate.

Alternatives Considered But Eliminated From Detailed Study

Change all Areas of Matrix on the Klamath Ranger District to LSR

Some people commented that no lands should be allocated to Matrix on the Winema National Forest. This alternative is beyond the scope of this EA. The Northwest Forest Plan allocated approximately 140,747 acres to LSR on the Winema National Forest. Approximately 60,863 were allocated to Matrix. Converting all these Matrix acres LSR would result in potentially significant effects, beyond those analyzed for the Northwest Forest Plan. The scope of the current proposal is limited to improving the Forest Service's ability to manage for desired LSR habitat while ensuring the LSR allocation remains similar in size. Therefore, this alternative was dismissed from detailed study.

Remove LSR status from LOW, add no replacement LSR

Some people commented that LSR status should be removed from Lake of the Woods, but no matrix lands should be designated for LSR replacement. This alternative is beyond the scope of this EA. One need addressed by the Proposed Action is ensuring the LSR allocation remains similar in size. This alternative would not meet that need and was therefore dismissed from detailed study.

Comparison of Alternatives ---

This section provides a summary of the effects of implementing each alternative. Information in the table is focused on activities and effects where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives.

Table 5. Alternative Comparison

	No Action	Alternative 1 Remove LSR from LOW, add LSR to Cold Springs	Alternative 2 Remove LSR from LOW, add LSR to Burton Butte	Alternative 3 Remove LSR from LOW, add LSR to Little Aspen
Total Acres	2,072	2,846	1,820	2,235
Net Change Acres LSR	0	+774	- 252	+ 163
Acres Spotted Owl Nesting, Roosting, Foraging Habitat in LSR	292	1,083	1,137	1,313
Acres Spotted Owl Dispersal Habitat in LSR	289	450	23	203
Net Increase Nesting, Roosting, Foraging and Dispersal Habitat in LSR	0	952	579	935
Critical Spotted Owl Habitat in LSR	No	Yes	Yes	No
Spotted Owl Occupancy in LSR	No	Yes, less productive	Yes, more productive	Historic occupancy

		Alternative 1 Remove LSR from LOW, add LSR to Cold Springs	Alternative 2 Remove LSR from LOW, add LSR to Burton Butte	Alternative 3 Remove LSR from LOW, add LSR to Little Aspen
LSR Connectivity	LOW is within LSR 227, low snag density immediately adjacent to the parcel due to hazard tree removal, better conditions further away. Does not provide for increased patch size or stepping stone.	Connectivity of Cold Springs to adjacent NRF is good, and the potential for development around the perimeter is low. Best for increasing size of existing functioning habitat. Not necessary as stepping stone.	Connectivity of Burton Butte to adjacent NRF is limited to the north, east and south by open areas and development on adjacent private lands. Dispersal between current LSR and Burton Butte may be compromised by major road systems and sparsely mixed conifer forest on private land and Forest Service administered land. May provide a stepping stone to connect isolated habitats surrounded by non-functional habitats. Adjacent to Pederson Springs Owl Core Area; increases core area value.	Connectivity of Little Aspen to adjacent NRF is most limited due to the presence of private lands to the east, south and west. Well-connected to wilderness area, however wilderness too high in elevation for spotted owl. Does not increase size of functioning habitat as well as Cold Springs. Does not provide stepping stone as well as Burton Butte.

		Alternative 1 Remove LSR from LOW, add LSR to Cold Springs	Alternative 2 Remove LSR from LOW, add LSR to Burton Butte	Alternative 3 Remove LSR from LOW, add LSR to Little Aspen
Vegetation Management Program	Existing situation prevails	Reduces the complexity of vegetation management at LOW. Increases planning complexity at Cold Springs, future projects would have to enhance late successional character. No change in management for Burton Butte or Little Aspen.	Reduces the complexity of vegetation management at LOW. Increases planning complexity at Burton Butte. Potential future conflict between need for fuel hazard reduction and maintenance of high snags and down wood levels. Future projects would have to enhance late successional character. No change in management for Cold Springs or Little Aspen.	Reduces the complexity of vegetation management at LOW. Increases planning complexity at Little Aspen; future projects to enhance late successional character. No change in management for Burton Butte or Cold Springs.
Reduction Matrix Timber Base on Winema	0 percent	2 percent	2 percent	2 percent
Standing Volume No Longer In Timber Base (MMBF)	0	47	42	47

		Alternative 1 Remove LSR from LOW, add LSR to Cold Springs	Alternative 2 Remove LSR from LOW, add LSR to Burton Butte	Alternative 3 Remove LSR from LOW, add LSR to Little Aspen
Recreation Management Program	Ongoing uses consistent with LSR management direction. Future options for site improvement and maintenance compromised. Development of new recreation facilities in LOW would be reviewed on a case by case basis by the Regional Ecosystem Office.	Removal of LSR from LOW would increase management options for scenic/recreation area enhancement and facility expansion. No known conflicts between recreation and LSR standards in Cold Springs.	Removal of LSR from LOW would increase management options for scenic/recreation area enhancement and facility expansion. Most potential for conflict with future development.	Removal of LSR from LOW would increase management options for scenic/recreation area enhancement and facility expansion. No known conflicts between recreation and LSR standards in Cold Springs.
Grazing Management Program	No discernable effect	No discernable effect.	Grazing allotment would need to be evaluated for LSR consistency.	No discernable effect
Soils and Water	No discernable effect	No discernable effect	No discernable effect	No discernable effect
Fisheries	No discernable effect	No discernable effect	No discernable effect	No discernable effect
Wildlife	Least favorable	Most Favorable	Favorable	Least Favorable
Special Status Species	No Effect	No Effect/ Beneficial Effect	No Effect/ Beneficial Effect	No Effect/ Beneficial Effect

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Introduction

All of the action alternatives would result in limited changes to Forest Plan allocations within the Klamath Ranger District. The overall management goals for Late-Successional Reserves are different than the goals for Matrix. Primary objectives of Late-Successional Reserves (LSR) are to protect and enhance conditions of old-growth forest ecosystems and serve as habitat for old-growth related species including the northern spotted owl. Land management activities within LSR are more constrained than within Matrix; activities in LSR must be designed to help achieve LSR goals and meet LSR standards and guidelines.⁶

Matrix lands are also associated with standards and guidelines, but these allow for more removal of large, older trees, snags and down wood.

The Northwest Forest Plan amended the Winema National Forest Plan in 1994. The Northwest Forest Plan added new land allocations to existing allocations on the Winema. Tables 1 through 4 display the land allocations that would be result with each alternative. Both Northwest Forest Plan land allocations and Winema National Forest allocations are shown. As shown in the tables, more than one allocation may be applied to a given piece of land. The Northwest Forest Plan stated, “In all allocations, standards and guidelines in current plans... apply where they are more restrictive or provide greater benefits to late-successional forest related species.”

For instance, matrix lands within the analysis area are also allocated to “Partial Retention,” a scenery management classification that guide appropriate land uses and activities. Standards and guidelines for Partial Retention would tend to be more restrictive than Matrix standards and guidelines and could provide greater benefits to late-successional forest related species.

The analysis in this EA is focused on differences between management direction that currently apply and direction that would apply under each alternative. No ground disturbing activities are proposed or directly implied within the action alternatives.

None of the alternatives would directly affect projects currently listed on the Winema National Forest Schedule of Proposed Actions (Haugen, personal communication). Few specific actions have been identified with the analysis area that could be analyzed for differences in management direction between the alternatives. Therefore, the differences between standards and guidelines that would be applied to the subject lands were analyzed.

⁶ Matrix standards and guidelines are more prescriptive, and in some ways, “stricter” than LSR guidelines. Vegetation management in LSR is guided by broad-scale landscape objectives; Matrix projects must meet more specific, stand-level standards.

Vegetation

Affected Environment

The vegetation on the four parcels has been heavily influenced by past fire history, and to some extent grazing practices and silvicultural activities. In addition, the Lake of the Woods parcel has been heavily impacted by recreation activities for nearly 100 years.

The forest stands that existed prior to fire suppression favored Douglas fir/true fir at higher elevations and ponderosa pine and sugar pine at lower elevations. The pre-settlement conifer forest was estimated to contain as little as 40 percent of the stand composition in true fir species. True fir now typically ranges between 85 to 90 percent of the stands. Additional associated vegetation within the parcels includes numerous species of grasses/sedges, shrubs and forbs such as long-stolen sedge, prince's pine, and big huckleberry, as well as locally isolated woody brush or tree species such as bitter cherry, golden chinquapin, and aspen.

Past management activities have altered the natural fire regimes that have occurred in these forests. Historically fire has played an important role as a disturbance regime and through time has dictated the development of these stands. Because of forest fire protection activities, the potential for high intensity stand-replacing fires has increased over the last several decades. The predominate fire regime has shifted from a historic low-to-moderate severity to the present moderate-to-high severity condition structure.

Late-Successional Forest Characteristics

One of the primary decision factors for this Forest Plan amendment is the extent to which each alternative improves the Forest Service's ability to manage Late-Successional Reserves and meet their objectives. Each of the four parcels considered in this analysis contains acreage that is in a desired condition relative to LSR objectives. The current conditions associated with each of the four parcels are shown in the following tables.

Elevation and Vegetation Community

Table 6 displays the existing acreage within a variety of vegetation community types within the four parcels. Ponderosa pine, red fir and white fir communities tend to develop desirable characteristics; high elevation lodgepole pine, young forest, and non-forest types are less desirable for late-successional habitat, but provide diversity. All conifer types (including Lodgepole and young forest communities) have some potential to develop desired late-successional characteristics over time. Younger forests tend to be older forests that were harvested and regenerated during the 1970's to 1990's. Notably, no regeneration harvest has occurred within the Lake of the Woods parcel.

The ***Lake of the Woods parcel*** currently contains about 621 acres of conifer forests; about 513 of these acres contain older forest stands and desired vegetation communities. The area vegetation surrounding Lake of the Woods is late-successional Douglas fir with a dense true fir (Shasta red fir, white fir) understory. The stand structure is typically two-storied with canopy closure ranging between 70-80 percent. Some large Douglas-fir in excess of 60 inches in diameter are scattered throughout the parcel. The shrub component is minimal, and is dominated by golden chinquapin, a shrub that can tolerate high levels of shade.

The ***Cold Springs parcel*** contains about 2,615 acres of conifer forests; about 1,435 of these acres contain older forest stands within desired vegetation communities. This parcel is predominately lodgepole pine and red fir overstory vegetation with extensive acreage of white fir and young conifers. Understory vegetation includes several species of huckleberry, and long-stolen sedge. Understory vegetation is extensive and well represented.

The ***Burton Butte parcel*** currently contains about 1,604 acres of conifer forests; about 1,413 of these acres contain older forest stands within desired vegetation communities. This parcel is primarily white and red fir overstory vegetation with some young conifer stands. Ground vegetation is sparse, but represented by big huckleberry and long-stolen sedge

The ***Little Aspen parcel*** currently contains about 2,043 acres of conifer forests; about 1,509 of these acres contain older forest stands within desired vegetation communities. This area is primarily white and red fir overstory with numerous stands of lodgepole pine and young conifers. Ground vegetation is moderate, and represented by big huckleberry, strawberry, twinflower, and long-stolen sedge.

Table 6. Vegetation Conditions

	Lake of the Woods	Cold Springs	Burton Butte	Little Aspen
Elevation (feet above Sea Level)	4,955 to 5,100	5,500 to 6,500	5,500 to 6,100	6,000 to 7,200
Vegetation Community	Acres			
Brush	8	2	15	109
Grass	0	147	201	75
Marsh/meadow	190	63	0	12
Lodgepole pine	8	1,010	41	385
Ponderosa pine – mixed conifer	0	15	19	9
Red fir	432	1,075	425	915
White fir	181	346	969	585
Young conifer	0	199	150	149
Total acres conifer	621	2,645	1,604	2,043
Total acres Ponderosa pine, red fir, white fir	513	1,435	1,413	1,509

Canopy Density

Table 7 displays the existing acreage within various canopy density classes within the four parcels. Stands with medium to high density tend to have more late-successional habitat potential. Site-specific information about snags and down woods does not exist, but would be assumed to be greatest in stands with medium to high density. Younger, high density stands could be treated to hasten development of late-successional habitats.

The Lake of the Woods parcel contains 605 acres in desired size-structure classes. The Cold Springs parcel contains 2,063 acres in desired size-structure classes, however many of these acres are dominated by lodgepole pine. Burton Butte contains about 1,260 acres in desired density classes; Little Aspen contains about 1,503 acres in these classes.

Table 7. Canopy Density

Canopy Density	Lake of the Woods	Cold Springs	Burton Butte	Little Aspen
	Acres			
High density (>55%)	461	1,651	1,026	1,107
Medium density (40-54%)	144	412	234	396
Low density (10-39%)	16	614	316	531
Non-forest (0-10%)	1,457	179	245	205
Acres in Medium to High Forest Density	605	2,063	1,260	1,503

Size-Structure Classes

Table 8 displays size-structure classes for each of the four parcels. Stands within large and medium size, multistory stand structures are most desired for late-successional habitat development. Stands containing smaller forest sizes could be targets for vegetation management to hasten development of diverse stand structures and larger sized conifers.

The Lake of the Woods parcel contains about 581 acres in desired size-structure classes. Cold Springs contains 2,262 acres in these classes, Burton Butte contains 1,211 acres in these classes, and Little Aspen contains about 1,729 acres in these classes. Site-specific information about snags and down woods does not exist, but would be assumed to be greatest in medium to large, multi-story stands.

Table 8. Size-Structure Classes

Size-Structure Class	Lake of the Woods	Cold Springs	Burton Butte	Little Aspen
	Acres			
Large multistory (32''+)	37	31	72	206
Medium multistory (21-31.9'')	544	2,231	1,139	1,523
Small multistory (10-20.9'')	39	225	244	176
Seed-sapling-pole (0-9.9'')	0	199	150	149
Acres in Medium to Large, Multi-story stands	620	2,686	1,605	2,054

Vegetation Management Direction and Programs

Vegetation management within the four parcels is subject to overlapping objectives, standards and guidelines depending on the land allocations represented within the parcels. Table 1 (in Chapter 2) displays the current land allocation mix for each parcel.

The following section focuses on the effects of the management direction that would apply to each parcel under each alternative on vegetation management programs. These programs include silvicultural and vegetation manipulation activities that meet a variety of objectives including forest health, fire management and fuels hazard reduction, timber production, and scenic/recreation area enhancement.

No Action

Lake of the Woods

The entire Lake of the Woods (LOW) parcel is currently allocated to Late-Successional Reserves (LSR) and Administrative Site. Approximately 1,600 acres of the parcel are also allocated to Riparian Reserves (about 1,228 are lake acres, the rest are lands adjacent to the lake and streams).

Selection of the No Action alternative would retain the current Forest Plan management direction for the area. The parcel is currently included in Management Area 02-Developed Recreation (USDA Forest Service, pg. 4-95, 1990), along with Late-Successional Reserves and Riparian Reserves.

Riparian Reserve and LSR objectives, standards and guidelines do not directly conflict with management of the Lake of the Woods Developed Recreation site. However, snags and other defected trees would be removed if they are identified as hazard trees. This area is a highly developed recreation complex and protection of public health and safety would continue to be prioritized under No Action.

LSR values would deteriorate with the continued removal of hazard trees. The dead and dying trees that are typically identified as hazards to public safety are exactly what LSRs were created to protect, as these are the types of trees that provide habitat for many old growth dependent plants and animals. Lake of the Woods has been, and would likely remain below minimum LSR standards for snags.

Forest Health

Vegetation management could improve the condition of the Lake of the Woods area by removing some of the understory so that the overstory is maintained alive as long as possible. Such a treatment could be done consistent with current LSR Assessment Criteria. However, the presence of the recreation area and high public use reduces the priority of this area compared to other LSR parcels that have similar vegetation treatment needs. The Lake of the Woods area lacks the young forest that would be the likely focus of near-term vegetation management to meet LSR objectives.

Fire Management and Fuel Hazard Reduction

A Fire Management Plan was developed for the LSR (see Section XI. of the LSR Assessment, USDA 1997). Fire and fuel hazard reduction activities are also guided by the South Central Interagency Fire Danger Operating Plan. These plans would continue to direct fire and fuel hazard reduction activities.

The allowable fire suppression response to unplanned ignitions within the Lake of the Woods parcel would remain in place under No Action. Fuel management treatments are recommended where the potential for wildfire damage is high, regardless of land allocation. No projects are currently proposed within this analysis area. No changes in the Fire Management Program would be expected.

The LSR designation complicates these activities (District Fire personnel have expressed that fuel treatment effectiveness may be reduced by meeting LSR standards and guidelines).

Timber Production

Timber harvest is currently not programmed from this parcel.

Scenic/Recreation Area Enhancement

Vegetation management could improve the scenic or recreation values of Lake of the Woods. LSR designation would complicate projects to enhance vegetation to improve scenic or recreation characteristics. Treatments could occur to the extent that they consistent with LSR.

Cold Springs, Burton Butte and Little Aspen

Management direction for the Cold Springs, Burton Butte and Little Aspen parcels would not change under No Action. The area would be subject to current objectives, standards and guidelines related to Matrix, Partial Retention, and Riparian Reserves. Table 1 displays the mix of land allocations that would continue to direct management under No Action.

Without LSR designation, vegetation management would be less focused on late successional forest restoration, and LSR conditions could decline as a result.

Forest Health

Vegetation management could improve the condition of the three parcels by reducing density in younger, smaller trees (each of these areas current contain 150-200 acres of younger forest). These treatments would be consistent with current management direction within Matrix, but would have to be designed consistent with other applicable standards and guidelines (such as visual quality objectives).

Monitoring reports for the Winema National Forest (1998-2002) state:

“Forest health concerns are related primarily to the effects of too many trees on the landscape caused by decades of fire suppression and limited stocking control. This overcrowding results in too little water and too few nutrients getting to each tree to maintain good tree health. With the trees stressed, they are more susceptible to attacks by mountain pine beetle on the pine trees, and fir engraver on the white fir trees. The drought in 2001 and 2002 added additional stress, and we expect to see increased mortality particularly in the pines. Past mortality in the white fir will continue to be a problem due to the increased fire danger those dead trees present. Management of the stocking levels in the forest is ongoing, but we will continue to have overstocked stands due the financial and procedural limitations on the amount of work we can accomplish in a year.”

Fire Management and Fuel Hazard Reduction

Fire and fuel hazard reduction activities are guided by the South Central Interagency Fire Danger Operating Plan. This plans would continue to direct fire and fuel hazard reduction activities. Treatments would be consistent with current management direction within Matrix, but would have to be designed consistent with other applicable standards and guidelines (such as visual quality objectives). The allowable fire suppression response to unplanned ignitions within the proposed alternative areas would be unchanged. National Fire Plan and Healthy Forest Initiative project priorities have been established. No projects are currently proposed within this analysis area. Some members of the public have implied that Burton Butte should be considered for fuels management (see scoping letters on file at the Winema National Forest website: www.fs.fed.us/r6/Winema/management/analysis/lowslr/). No changes in the Fire Management Program would be expected under the No Action alternative.

Timber Production

Timber harvest may be programmed from all three parcels under No Action. Each of these areas equate to about 2 percent of the 140,750-acre Matrix land base on the Winema National Forest. Timber production could be emphasized to the extent possible given other objectives, standards and guidelines (such as visual quality objectives).

The Matrix land allocation provides for regeneration harvesting.

Scenic/Recreation Area Enhancement

Vegetation management could improve the scenic or recreation values of Lake of the Woods. LSR designation would complicate projects to enhance vegetation to improve scenic or recreation characteristics. Treatments could occur to the extent that they consistent with LSR.

Common to All Action Alternatives

Lake of the Woods parcel

Under all action alternatives, LSR status would be removed from the LOW parcel, but the Administrative Site and Riparian Reserve allocations would remain in place. The following effects on forest health, fire management and fuel hazard reduction, timber production and scenic/recreation area enhancement programs would be expected:

Forest Health

The removal of LSR standards would reduce the complexity and potentially conflicting guidance for forest health projects. Vegetation management could improve the condition of the Lake of the Woods area by removing some of the understory so that the overstory is maintained alive as long as possible. Such a treatment would have to be done consistent with Developed Recreation Standards and Guidelines.

Fire Management and Fuel Hazard Reduction

The South Central Interagency Fire Danger Operating Plan would apply to fire and fuel hazard reduction activities (the LSR Fire Management Plan would no longer apply to Lake of the Woods). However, the allowable fire suppression response to unplanned ignitions within the Lake of the Woods areas would be essentially unchanged under all action alternatives.

Removing the LSR designation may increase fuel treatment effectiveness. Fire protection efforts may receive more local support; for instance the Lake of the Woods Recreation Association noted that the change in land allocation would “remove many of the impediments” to implementing fuels reduction work that create a buffer between the recreation site and adjacent wildlands (scoping letter, January 6, 2004). No specific proposals have been expressed.

National Fire Plan and Healthy Forest Initiative project priorities have been established. No projects are currently proposed within this analysis area. No changes in the Fire Management Program would be expected.

Timber Production

Timber harvest would not be programmed from this parcel in any action alternative.

Scenic/Recreation Area Enhancement

Vegetation management could improve the scenic or recreation values of Lake of the Woods. Removal of the LSR designation could increase the flexibility of implementing projects to enhance vegetation to improve scenic or recreation characteristics. Removal of LSR designation from Lake of the Woods would remove a complicating factor in managing vegetation within the developed recreation site. Snags would continue to be felled if they were identified as hazards and more flexibility would be allowed in removing snags, down wood and taking a pro-active approach to potential future hazards.

Alternative 1

Under Alternative 1, the Lake of the Woods parcel would be removed from LSR designation and the Cold Springs would be added to the LSR network. The Burton Butte and Little Aspen parcels would not change under Alternative 1. Table 2 displays the management allocation distribution that would occur under Alternative 1.

Lake of the Woods Parcel

Effects from removing LSR designation from the Lake of the Woods parcel on vegetation management direction and programs was described under Effects Common to All Action Alternatives above.

Cold Springs Parcel

Management direction for the Cold Springs parcel would change under Alternative 1. LSR designation would be added to approximately 2,850 acres. The Colds Springs parcel would also be subject to current objectives, standards and guidelines related to Partial Retention, and Riparian Reserves.

Forest Health

New vegetation management requirements would apply to the Cold Springs parcel under Alternative 1. The Northwest Forest Plan states:

“Silvicultural activities aimed at reducing risk shall focus on younger stands in Late-Successional Reserves. The objective will be to accelerate development of late-successional conditions while making the future stand less susceptible to natural disturbances.”

“Silvicultural systems proposed for Late-Successional Reserves have two principal objectives:

- (1) development of old-growth forest characteristics including snags, logs on the forest floor, large trees, and canopy gaps that enable establishment of multiple tree layers and diverse species composition; and
- (2) prevention of large-scale disturbances by fire, wind, insects, and diseases that would destroy or limit the ability of the reserves to sustain viable forest species populations. Small-scale disturbances by these agents are natural processes, and will be allowed to continue.”

“Stand management in Late-Successional Reserves should focus on stands that have been regenerated following timber harvest or stands that have been thinned. These include stands that will acquire late-successional characteristics more rapidly with treatment, or are prone to fire, insects, diseases, wind, or other disturbances that would jeopardize the reserve.”

The Late Successional Reserve Assessment for the Oregon Eastern Cascades (USDA 1997) describes stand and landscape level criteria for developing vegetation treatments in the LSR. Types of treatments recommended in this assessment include tree culturing, fuel treatments, thinning and regeneration of root rot infected stands. Plantation management and treatments to increase multi-canopy structure and supplement coarse woody debris are also recommended. The following criteria guide LSR vegetation management:

- Habitat characteristics including canopy closure between 56 and 85 percent; retention of large diameter (greater than 25 inches dbh) Douglas fir, ponderosa pine, and/or sugar pine will average between 1 and 10 trees per acre; and coarse woody debris of less than 3 inches in diameter will be 12 tons per acre or less.
- Within the mixed conifer and white fir plant associations, the percent of total basal area contributed by true fir will be less than 60 percent.

- LSRs are expected to be fully functional in 50 years, recognizing that there will be areas where large trees are not present and the desired large tree and snag levels may not be achieved during the time period.
- Stands will be retained in 2-storied, multi-storied, or mosaic structures.
- Debris greater than 16 inches in diameter will be no greater than 40 tons/acre, with a minimum target of 10 tons/acre in treated stands.

Vegetation treatments within LSR would have to be designed to meet these objectives. The Cold Springs parcel contains about 200 acres typed as young conifer stands; these would be the likely focus of vegetation management under Alternative 1.

The US Fish and Wildlife Service has encouraged the Winema National Forest to consider thinning within younger Late-Successional Reserve stands (Haugen, personal communication, April 04). The Healthy Forests Initiative and National Fire Plan emphasize understory fuels management. Foreseeable future projects in LSR are most likely to focus on these policies. Other factors along with land allocation would be considered in prioritizing areas to be treated.

Fire Management and Fuel Hazard Reduction

The South Central Interagency Fire Danger Operating Plan would apply to fire and fuel hazard reduction activities. The Fire Management Plan within the LSR Assessment would have to be reviewed to determine changes needed to incorporate conditions and recommendations related to the Cold Springs parcel.

Winema National Forest District personnel have indicated that fire and fuel hazard reduction treatments may lose effectiveness if LSR standards need to be met. Treatments would have to be designed consistent with LSR standards. However, the allowable fire suppression response to unplanned ignitions within the Cold Springs parcel would be unchanged.

Timber Production

Timber harvest would not be programmed in the Cold Springs parcel under Alternative 1. Approximately 2,600 acres would be removed from the timber base, amounting to a loss of approximately 47 million board feet from programmed timber harvest. The Matrix acreage on the Winema National Forest would be reduced by approximately 2 percent.

Vegetation treatments in the parcel would have to be designed to meet LSR guidelines, which would reduce their flexibility and limit the size of trees that would be removed. Some timber could be produced, but it would be a by-product of the project.

Winema National Forest Plan Monitoring Reports between 1998 and 2002 stated:

“The Forest's timber program includes vegetation management projects designed to restore sustainable forest conditions and watershed health in landscapes where risk of catastrophic fire or insect loss is high. These projects combine both non-commercial and commercial means. Some of them use timber sales and provide commercial products, which will help sustain local communities economically, though this is not their primary purpose. These projects are designed to sustain old growth conditions; protect spotted owl habitat connectivity between Late Successional Reserves and Crater Lake National Park; rehabilitate meadows, hardwoods, and riparian habitats; treat forests for fire,

tussock moth, budworm, and root rot risks; and reintroduce fire's function in the system.”⁷

The 2002 Report also states:

“Timber harvest within the range of the northern spotted owl has been very limited due to the cost and difficulty in developing adequate compliance with legal requirements. This situation continues to depress economic activity in the area and compounds problems with other sectors in the economy. The Fremont and Winema National Forests are scheduled to begin development of a Forest Plan revision in 2005. The revision process will re-address the relationships between timber management, wildlife habitat, and socio-economics, as recommended over the last several years by the Forest’s interdisciplinary teams.

Since implementation of the Forest Plans, the Forests have produced well below planned levels in all categories that involve ground-disturbing work, except reforestation and watershed improvements. This highlights the major emphasis on ecosystem restoration.”

Thus, while Alternative 1 would result in a loss of more than 2,000 acres within the programmed timber base, the actual impacts of the change in allocation are smaller because current programs are emphasizing resource values other than timber production.

Scenic/Recreation Area Enhancement

Vegetation management that enhances scenery could occur within the Cold Springs area, but such treatment would be subject to LSR standards.

Burton Butte and Little Aspen Parcels

Effects on management direction and programs would be the same as No Action.

Alternative 2

Under Alternative 2, the Lake of the Woods area parcel would be removed from LSR designation and the Burton Butte parcel would be added to the LSR network. The Cold Springs and Little Aspen parcels would remain subject to current objectives, standards and guidelines. Table 3 displays the mix of land allocations that would result from Alternative 2.

Lake of the Woods Parcel

Effects from removing LSR designation from the Lake of the Woods parcel on vegetation management direction and programs was described under Effects Common to All Action Alternatives above.

Burton Butte Parcel

Management direction for the Burton Butte parcel would change under Alternative 2. LSR designation would be added to approximately 1,800 acres.

⁷ This statement occurs in each Forest Plan Monitoring Report from 1998 to 2002.

Forest Health

New vegetation management requirements would apply to the Burton Butte parcel under Alternative 2. The Northwest Forest Plan states:

“Silvicultural activities aimed at reducing risk shall focus on younger stands in Late-Successional Reserves. The objective will be to accelerate development of late-successional conditions while making the future stand less susceptible to natural disturbances.”

“Silvicultural systems proposed for Late-Successional Reserves have two principal objectives:

- (2) development of old-growth forest characteristics including snags, logs on the forest floor, large trees, and canopy gaps that enable establishment of multiple tree layers and diverse species composition; and
- (2) prevention of large-scale disturbances by fire, wind, insects, and diseases that would destroy or limit the ability of the reserves to sustain viable forest species populations. Small-scale disturbances by these agents are natural processes, and will be allowed to continue.”

“Stand management in Late-Successional Reserves should focus on stands that have been regenerated following timber harvest or stands that have been thinned. These include stands that will acquire late-successional characteristics more rapidly with treatment, or are prone to fire, insects, diseases, wind, or other disturbances that would jeopardize the reserve.”

The Late Successional Reserve Assessment for the Oregon Eastern Cascades (USDA 1997) describes stand and landscape level criteria for developing vegetation treatments in the LSR. Types of treatments recommended in this assessment include tree culturing, fuel treatments, thinning and regeneration of root rot infected stands. Plantation management and treatments to increase multi-canopy structure and supplement coarse woody debris are also recommended. The following criteria guide LSR vegetation management:

- Habitat characteristics including canopy closure between 56 and 85 percent; retention of large diameter (greater than 25 inches dbh) Douglas fir, ponderosa pine, and/or sugar pine will average between 1 and 10 trees per acre; and coarse woody debris of less than 3” in diameter will be 12 tons per acre or less.
- Within the mixed conifer and white fir plant associations, the percent of total basal area contributed by true fir will be less than 60 percent.
- LSRs are expected to be fully functional in 50 years, recognizing that there will be areas where large trees are not present and the desired large tree and snag levels may not be achieved during the time period.
- Stands will be retained in 2-storied, multi-storied, or mosaic structures.
- Debris greater than 16 inches in diameter will be no greater than 40 tons/acre, with a minimum target of 10 tons/acre in treated stands.

Vegetation treatments within LSR would have to be designed to meet these objectives. The Burton Butte parcel contains about 150 acres typed as young conifer stands; these would be the likely focus of vegetation management under Alternative 2.

The US Fish and Wildlife Service has encouraged the Winema National Forest to consider thinning within younger Late-Successional Reserve stands (Haugen, personal communication, April 04). The Healthy Forests Initiative and National Fire Plan emphasize understory fuels management. Foreseeable future projects in LSR are most likely to focus on these policies. Other factors along with land allocation would be considered in prioritizing areas to be treated.

Fire Management and Fuel Hazard Reduction

The South Central Interagency Fire Danger Operating Plan would apply to fire and fuel hazard reduction activities. The Fire Management Plan within the LSR Assessment would have to be reviewed to determine changes needed to incorporate conditions and recommendations related to the Burton Butte parcel.

Winema National Forest District personnel have indicated that fire and fuel hazard reduction treatments may lose effectiveness if LSR standards need to be met. Burton Butte is adjacent to a checkerboard of private and other land ownerships. Members of the public have expressed concern that effective fuels management would reduce the Forest's ability to manage for LSR and the same conflicts experienced at Lake of the Woods could result. Treatments would have to be designed consistent with LSR standards. However, the allowable fire suppression response to unplanned ignitions within the Burton Butte parcel would be unchanged.

Timber Production

Timber harvest would not be programmed in the Burton Butte parcel under Alternative 2. This would amount to a loss of approximately 42 million board feet total. The Matrix land base on the Winema National Forest would be reduced by approximately 2 percent.

Vegetation treatments in the parcel would have to be designed to meet LSR guidelines, which would reduce their flexibility and limit the size of trees that would be removed. Some timber could be produced, but it would be a by-product of the project.

Winema National Forest Plan Monitoring Reports between 1998 and 2002 stated:

“The Forest's timber program includes vegetation management projects designed to restore sustainable forest conditions and watershed health in landscapes where risk of catastrophic fire or insect loss is high. These projects combine both non-commercial and commercial means. Some of them use timber sales and provide commercial products, which will help sustain local communities economically, though this is not their primary purpose. These projects are designed to sustain old growth conditions; protect spotted owl habitat connectivity between Late Successional Reserves and Crater Lake National Park; rehabilitate meadows, hardwoods, and riparian habitats; treat forests for fire, tussock moth, budworm, and root rot risks; and reintroduce fire's function in the system.”⁸

⁸ This statement occurs in each Forest Plan Monitoring Report from 1998 to 2002.

The 2002 Report also states:

“Timber harvest within the range of the northern spotted owl has been very limited due to the cost and difficulty in developing adequate compliance with legal requirements. This situation continues to depress economic activity in the area and compounds problems with other sectors in the economy. The Fremont and Winema National Forests are scheduled to begin development of a Forest Plan revision in 2005. The revision process will re-address the relationships between timber management, wildlife habitat, and socio-economics, as recommended over the last several years by the Forest’s interdisciplinary teams.

Since implementation of the Forest Plans, the Forests have produced well below planned levels in all categories that involve ground-disturbing work, except reforestation and watershed improvements. This highlights the major emphasis on ecosystem restoration.”

Thus, while Alternative 2 would result in a loss of about 1,800 acres within the programmed timber base, the actual impacts of the change in allocation are smaller because current programs are emphasizing resource values other than timber production.

Scenic/Recreation Area Enhancement

Vegetation management that enhances scenery could occur within the Cold Springs area, but such treatment would be subject to LSR standards.

Burton Butte and Little Aspen Parcels

Effects on vegetation management direction and programs would be the same as for No Action.

Alternative 3

Under Alternative 3, the Lake of the Woods area parcel would be removed from LSR designation and the Little Aspen parcel would be added to the LSR network. The Cold Springs and Burton Butte parcels would remain subject to current objectives, standards and guidelines. Table 4 displays the mix of land allocations that would result from Alternative 3.

Lake of the Woods Parcel

Effects from removing LSR designation from the Lake of the Woods parcel on vegetation management direction and programs was described under Effects Common to All Action Alternatives above.

Little Aspen Parcel

Management direction for the Little Aspen parcel would change under Alternative 3. LSR designation would be added to approximately 2,240 acres.

Forest Health

New vegetation management requirements would apply to the Little Aspen parcel under Alternative 3. The Northwest Forest Plan states:

“Silvicultural activities aimed at reducing risk shall focus on younger stands in Late-Successional Reserves. The objective will be to accelerate development of late-successional conditions while making the future stand less susceptible to natural disturbances.”

“Silvicultural systems proposed for Late-Successional Reserves have two principal objectives:

- (3) development of old-growth forest characteristics including snags, logs on the forest floor, large trees, and canopy gaps that enable establishment of multiple tree layers and diverse species composition; and
- (2) prevention of large-scale disturbances by fire, wind, insects, and diseases that would destroy or limit the ability of the reserves to sustain viable forest species populations. Small-scale disturbances by these agents are natural processes, and will be allowed to continue.”

“Stand management in Late-Successional Reserves should focus on stands that have been regenerated following timber harvest or stands that have been thinned. These include stands that will acquire late-successional characteristics more rapidly with treatment, or are prone to fire, insects, diseases, wind, or other disturbances that would jeopardize the reserve.”

The Late Successional Reserve Assessment for the Oregon Eastern Cascades (USDA 1997) describes stand and landscape level criteria for developing vegetation treatments in the LSR. Types of treatments recommended in this assessment include tree culturing, fuel treatments, thinning and regeneration of root rot infected stands. Plantation management and treatments to increase multi-canopy structure and supplement coarse woody debris are also recommended. The following criteria guide LSR vegetation management:

- Habitat characteristics including canopy closure between 56 and 85 percent; retention of large diameter (>25”dbh) Douglas fir, ponderosa pine, and/or sugar pine will average between 1 and 10 trees per acre; and coarse woody debris of less than 3 inches in diameter will be 12 tons per acre or less.
- Within the mixed conifer and white fir plant associations, the percent of total basal area contributed by true fir will be less than 60 percent.
- LSRs are expected to be fully functional in 50 years, recognizing that there will be areas where large trees are not present and the desired large tree and snag levels may not be achieved during the time period.
- Stands will be retained in 2-storied, multi-storied, or mosaic structures.
- Debris greater than 16 inches in diameter will be no greater than 40 tons/acre, with a minimum target of 10 tons/acre in treated stands.

Vegetation treatments within LSR would have to be designed to meet these objectives. The Little Aspen parcel contains about 150 acres typed as young conifer stands; these would be the likely focus of vegetation management under Alternative 3.

The US Fish and Wildlife Service has encouraged the Winema National Forest to consider thinning within younger Late-Successional Reserve stands (Haugen, personal communication, April 04). The Healthy Forests Initiative and National Fire Plan emphasize understory fuels management. Foreseeable future projects in LSR are most likely to focus on these policies. Other factors along with land allocation would be considered in prioritizing areas to be treated.

Fire Management and Fuel Hazard Reduction

The South Central Interagency Fire Danger Operating Plan would apply to fire and fuel hazard reduction activities. The Fire Management Plan within the LSR Assessment would have to be reviewed to determine changes needed to incorporate conditions and recommendations related to the Little Aspen parcel.

Winema National Forest District personnel have indicated that fire and fuel hazard reduction treatments may lose effectiveness if LSR standards need to be met. Treatments would have to be designed consistent with LSR standards. However, the allowable fire suppression response to unplanned ignitions within the Little Aspen parcel would be unchanged.

Timber Production

Timber harvest would not be programmed in the Little Aspen parcel under Alternative 2. This would amount to a loss of approximately 47 million board feet total. The Matrix land base on the Winema National Forest would be reduced by approximately 2 percent.

Vegetation treatments in the parcel would have to be designed to meet LSR guidelines, which would reduce their flexibility and limit the size of trees that would be removed. Some timber could be produced, but it would be a by-product of the project.

Winema National Forest Plan Monitoring Reports between 1998 and 2002 stated:

“The Forest's timber program includes vegetation management projects designed to restore sustainable forest conditions and watershed health in landscapes where risk of catastrophic fire or insect loss is high. These projects combine both non-commercial and commercial means. Some of them use timber sales and provide commercial products, which will help sustain local communities economically, though this is not their primary purpose. These projects are designed to sustain old growth conditions; protect spotted owl habitat connectivity between Late Successional Reserves and Crater Lake National Park; rehabilitate meadows, hardwoods, and riparian habitats; treat forests for fire, tussock moth, budworm, and root rot risks; and reintroduce fire's function in the system.”⁹

The 2002 Report also states:

“Timber harvest within the range of the northern spotted owl has been very limited due to the cost and difficulty in developing adequate compliance with legal requirements. This situation continues to depress economic activity in the area and compounds problems with other sectors in the economy. The Fremont and Winema National Forests are scheduled to begin development of a Forest Plan revision in 2005. The revision process will re-address the relationships between timber management, wildlife habitat, and socio-economics, as recommended over the last several years by the Forest's interdisciplinary teams.

Since implementation of the Forest Plans, the Forests have produced well below planned levels in all categories that involve ground-disturbing work, except reforestation and watershed improvements. This highlights the major emphasis on ecosystem restoration.”

⁹ This statement occurs in each Forest Plan Monitoring Report from 1998 to 2002.

Thus, while Alternative 3 would result in a loss of about 2,200 acres within the programmed timber base, the actual impacts of the change in allocation are smaller because current programs are emphasizing resource values other than timber production.

Scenic/Recreation Area Enhancement

Vegetation management that enhances scenery could occur within the Cold Springs area, but such treatment would be subject to LSR standards.

Cold Springs and Burton Butte Parcels

Effects on vegetation management direction and programs would be the same as for No Action.

Threatened, Endangered, and Sensitive Plants _____

Management of Threatened, Endangered and Regional Forester Sensitive¹⁰ plant species is directed within Forest Service Manual 2670. Forest-level guidance also exists to ensure that threatened and endangered species habitat is maintained and managed for special status species recovery.

All ground-disturbing activities, projects and Forest-level programs must be reviewed for effects on special status species. Consultation with the US Fish and Wildlife Service is required if projects are likely to adversely affect plants listed or proposed for listing under the Endangered Species Act. This management direction applies to all land allocations and is not subject to change in any alternative.

A pre-field evaluation revealed that habitat for many sensitive plants occur within the four analysis parcels. No federally-listed plant species occur in the parcels.¹¹ The Lake of the Woods parcel contains habitat for seven species of sensitive plants, Cold Springs has habitat for eight species of sensitive plants, Burton Butte contains habitat for one species of sensitive plants, and Little Aspen contains no known habitats for any sensitive plants. Habitats for sensitive plants tend to be in wet areas and forest openings. A list of plants that may be in the four areas is in Appendix A. No sensitive plants would be adversely impacted by any alternative.

¹⁰ These are considered special status species. Also includes species proposed for listing under the Endangered Species Act.

¹¹ A population of the listed species Applegate's milk vetch (*Astragalus applegatei*) is known south of Klamath Falls, but no habitat occurs near or within the four parcels.

Threatened, Endangered, and Sensitive Wildlife _____

Affected Environment

Many special status (threatened, endangered, sensitive, and management indicator) wildlife species are associated with late successional forests. These include Pacific fringe-tailed bat, Pacific pallid bat, Pacific fisher, great gray owl, northern goshawk, pileated woodpecker, American marten, Black-backed woodpecker, brown creeper, flammulated owl, hermit thrush, olive-sided flycatcher, Williamson's sapsucker, and hermit warbler. Appendix A provides detailed information about wildlife species in the project area. Information about threatened, endangered and sensitive wildlife species is summarized in this section.

Each parcel contains acreage that would contribute to the Forest Service's ability to manage LSR to benefit northern spotted owl and other species associated with late-successional habitat conditions. Factors that influence the Forest Service's ability to manage LSR for desired conditions include: elevation and vegetation types, the abundance of nesting, roosting and foraging habitat for spotted owls, abundance acreage of dispersal habitat for spotted owls, current known occupancy by spotted owls, acreage of critical habitat for spotted owl maintained as LSR, and connectivity to other LSR areas.

Elevation and Vegetation Types

The vegetation section above described the existing conditions within the four parcels in terms of elevation and vegetation types. The elevation and vegetation type influences northern spotted owl habitat quality. In general, higher elevations are less functional for northern spotted owls. However, analysis indicates that owls may use forests between 4,500 feet and 6,000 feet in elevation, as long as canopy cover exceeds 56 percent and connectivity is good (USFS 1997).

Spotted owl activity centers are well-distributed across the Klamath Ranger District and occur in multi-storied white fir and Shasta red fir forests classified as both mid and late seral. Analysis of known nests indicates that spotted owls most frequently select large Douglas-fir, ponderosa pine and sugar pine even though they are in a true fir dominated landscape (ibid.).

The Cold Springs and Little Aspen parcels contain higher elevation lands that may be less suitable for northern spotted owl. The USFWS notes (letter, May 2004) that the Cold Springs parcel is subject to longer snow cover and colder temperatures than the other areas. This may make this area less productive than other data indicates.



Nesting, Roosting, Foraging and Dispersal Habitat

Nesting, roosting and foraging (NRF) habitat was mapped using air photos to identify conifer stands with 60 to 80 percent canopy cover that are multi-storied and contain trees larger than 30 inches diameter (USFWS 1991). Dispersal habitat was mapped by identifying areas with at least 50 percent of the area having greater than 40 percent canopy cover and trees larger than 11 inches diameter (USDI FWS 1991). In general, previously harvested areas (shelterwood and seedtree) do not provide nesting, roosting and foraging habitat, but they do provide dispersal habitat.

Table 9 displays acres of nesting, roosting, foraging and dispersal habitat within each of the parcels considered. Lake of the Woods contains about 500 acres of such habitats, Burton Butte contains about 1,000 acres of such habitat, and Cold Springs and Little Aspen contain about 1,500 acres of such habitat. The Burton Butte parcel contains more productive lands that are higher in habitat quality (bigger trees, better structure) than the other parcels; while the acreage is smaller, the parcel may provide equal or better habitat function.

Critical Habitat

The US Fish and Wildlife Service designated critical habitat for the northern spotted owl, based on the presence of primary constituent elements (nesting/roosting/foraging). Critical habitat areas were strategically placed to provide connectivity between owl subpopulations. Two of the areas, Cold Spring and Burton Butte are entirely or almost entirely designated as critical habitat. Discussions about Critical Habitat Units OR-37 and OR-8 are incorporate herein from “*the Environmental Baseline Update for Northern Spotted Owl on the Winema National Forest*” USDI 2001.

Critical habitat unit OR-37 (which includes Burton Butte) straddles the boundary between the Western and Eastern Cascades. The unit was designated as critical habitat because of its essential nesting, roosting, foraging and dispersal habitat. Unit OR-37 provides the single most important “stepping stone” of critical habitat, which links the Oregon Cascades to the Klamath Mountains province across the South Ashland portion of the I-5 area of concern. The Service identified this as one of the areas where past harvest practices, current habitat conditions and land ownership patterns elevate the importance of maintaining areas of owl nesting habitat linking the Western/Eastern Cascades and Klamath Mountains provinces.

In OR-37 since 1994, a total of about four percent of NRF habitat has been removed and about five percent has been degraded by vegetation management projects. The vegetation management projects that removed or degraded habitat were often thinnings designed to reduce the risk of loss of habitat due to fire, insects and competitive stress maintain or enhance the long-term development of late-successional and old-growth forests. The critical habitat unit is still substantially in the condition it was at the time of designation and the acres that are tallied as degraded have actually reduced the risk of habitat loss from fire and disease (FWS 12/2001).

Critical habitat unit OR-8 was designed to maintain essential nesting, roosting, and foraging habitat in the southern portion of the Eastern Cascades province. Unit OR-8 is the single unit providing the north-south connection in the southern portion of the Eastern Cascades province. Unit OR-8 connects to the Sky Lakes Wilderness/Crater Lake National Park block to the west.

The creation of OR-8 will also help maintain and improve the range-wide distribution of owl nesting habitat along the eastern fringe of the subspecies range.

Since 1994, the critical habitat unit has had less than one percent of NRF removed and another 3.1% degraded. Like OR-37, the impacts were related to commercial thinning that spread the impacts over a large area and protects the remaining NRF. Therefore, it is assumed that the unit is substantially in the condition it was at the time of designation except for being less at risk from fire and disease (FWS 12/2001).

Northern Spotted Owl Occupancy

Spotted owl occupancy has been monitored throughout the National Forest for several years. Surveys for new spotted owl territories were discontinued in 1994; known nests are surveyed annually through an agreement with Oregon State Extension Service. Detailed occupancy data is available in Appendix A.

The 1997 LSR Assessment stated that a total of 33 owl pairs plus 5 territorial singles were documented in LSR 0227 between 1987 and 1996. Doug Laye of the US Fish and Wildlife Service expressed concern that since the LSR Assessment was completed, several activity centers have become unoccupied and the number of barred owls has gone up (Doug Laye, personal Communication, April 04).

Researchers have monitored the demography of spotted owls since 1985. One of the demography study areas, the Southern Oregon Cascades study area, overlaps the Klamath Ranger District of the Winema and includes portions of LSR 0227. In the Annual Research Report for the year 2000, the estimated annual rate of population change was “significantly less than one and was declining at a relatively greater rate than the trend previously estimated for the region”. The author concludes that the population experienced a significant decline in the study area between 1991 and 1998 (USFWS 2002).

Spotted owl numbers in Oregon have dropped by 2.8 percent per year from 1990 to 2003 (ESWR, May 2004). This analysis also suggests that reproductive and survival rates were relatively stable, but recruitment of young was not enough to offset the loss of owls due to various mortality factors.

The only LSR on the Winema that is large enough to support a “cluster” of spotted owls (LSR 0227) has had little habitat loss from timber activities. The smaller LSR’s have not had any impacts that would change their condition since 1994. These LSR’s are too small to support clusters and in several cases do not have the site potential to produce spotted owl habitat.

No nest sites are known within the *Lake of the Woods* parcel.

The *Cold Springs* trailhead nest (2752) was first noted as a pair site in 1991, but no nests were recorded. Males were recorded in 1994 and 1995 but no nesting was documented. The area wasn’t monitored from 1996-2001. In 2002 a pair occupied the site and produced 2 young. In 2003, a pair was recorded there, but did not nest. A nesting pair was located in 2004 (Sanborn, personal communication, June 2004).

The Lost Peak nest (2764) was first reported as a pair site in 1991, and first nested in 1993. In 2003, a non-nesting pair was recorded in the area.

Use in the **Burton Butte** nest area (2265) was first detected in 1985. The site had a pair there in 1990 and they first nested in 1991 and produced two fledglings. The site was used yearly through 2003, with young fledged in 1994, 1996, 1997, and 2001. However, barred owls were found in the area in 2004. The Pederson Springs nest area (2264) is known to have produced young in 2003. Surveys in 2004 have found that one of the nest territories in the Pederson Springs area has been taken over by barred owls (D. Laye, FWS Biologist, pers. comm.).

Nest 1770 was detected in the **Little Aspen** parcel in 1977. Young were reported to have fledged there in 1977 and each year up until 1982. Individuals and pairs were reported in that vicinity between 1982 and 1998. The nest site was then unoccupied between 1999 and 2002. A pair was recorded at the nest site in 2003, but their reproductive status was unknown.

Table 9 compares northern spotted owl habitat conditions relevant to the Forest Service's ability to manage LSR for desired habitat characteristics.

Table 9. Northern Spotted Owl Habitat Comparison

Parcel	Total Acres	Acres NRF Habitat	Acres Dispersal Habitat	Acres NRF Plus Dispersal	Critical Habitat	Known Owl Occupancy
LOW	2,072	292	289	0	None	No
Cold Springs	2,846	1,083	450	8	OR 8	Yes, less productive
Burton Butte	1,820	1,137*	23	37*	OR 37	Yes, most productive
Little Aspen	2,235	1,313	203	0	None	Historic Occupancy

*Nesting and roosting habitat would be reduced by 77 acres if the Spencer Timber Sale were awarded.

Connectivity

Each of the parcels is adjacent to other areas of federally-managed (Winema and Rogue River National Forests, Bureau of Land Management) and privately-owned lands. The conditions of these adjacent lands affect the parcels' suitability as northern spotted owl habitat.

The **Lake of the Woods** parcel is within, but on the edge of LSR 227. Desired late-successional habitat is contained within the LSR adjacent to the Lake of the Woods parcel. The area immediately adjacent to Lake of the Woods is highly developed and receives year round use (for instance, Dead Indian Memorial Road, Highway 140, and the Big Meadow area adjacent to the Lake of the Woods resort).

The **Cold Springs** parcel is well-connected to habitat in wilderness, existing LSR and administratively withdrawn areas. The access road to the Cold Springs trailhead is used as a groomed snowmobile trail. Another snowmobile trail is groomed along the road that accesses Pelican Butte. This level of winter use/recreation has not been shown to have an adverse effect on spotted owls.

Connectivity between current LSR and the **Burton Butte** parcel may be compromised by major road systems (Dead Indian Memorial Road and the Clover Creek Road) and sparsely mixed conifer forest on private land and Forest Service administered land. This area lies adjacent to the Forest Boundary and is bordered by the Rogue River National Forest to the west (managed as LSR with underlying watershed and partial retention direction), BLM to the south (BLM land includes the Pederson Springs Owl Core Area), and private lands on the south, east and north.

Development on these adjacent private lands includes 147 acres of housing, another 134 acres that could be developed, and about 2,500 acres of commercial forest land. These commercial forest lands have been heavily managed in the past. However, the BLM manages the Pederson Springs Owl Core Area that is directly adjacent to the Burton Butte parcel.

The **Little Aspen** parcel is adjacent to existing LSR 228 and the Mountain Lakes Wilderness. Much of the higher elevation in the Wilderness is open and rocky and not habitat for spotted owls. The lower elevations around the edge of the wilderness are NRF habitat and connectivity is good to the north. Connectivity to NRF is limited in all other directions. This area lies adjacent to the matrix lands to the south and private land, including commercial forest, to the east and west. These commercial forest lands have been heavily managed in the past. LSR 228 lies to the west of this area and is adjacent for about $\frac{3}{4}$ mile. There has been past prescribed burning on National Forest lands to the south.

Table 10. Connectivity

Parcel	Connectivity
Lake of the Woods	Within LSR 227, poor conditions immediately adjacent to the parcel, better conditions further away. Does not provide for increased patch size or stepping stone.
Cold Springs	Connectivity to adjacent NRF is good, and the potential for development around the perimeter is low. Best for increasing size of existing functioning habitat. Not necessary as stepping stone.
Burton Butte	Connectivity to adjacent NRF is limited to the north, east and south by open areas and development on adjacent private lands. Dispersal between current LSR and Burton Butte may be compromised by major road systems and sparsely mixed conifer forest on private land and Forest Service administered land. May provide a stepping stone to connect isolated habitats surrounded by non-functional habitats. Adjacent to Pederson Springs Owl Core Area; increases core area value.
Little Aspen	Connectivity to adjacent NRF is most limited due to the presence of private lands to the east, south and west. Well-connected to wilderness area, however wilderness too high in elevation for spotted owl. Does not increase size of functioning habitat as well as Cold Springs. Does not provide stepping stone as well as Burton Butte.

Environmental Consequences

All of the action alternatives would benefit species associated with late-successional forests, including northern spotted owl, by increasing the quality of the LSR network and the Forest Service's ability to manage the LSR. Of the four parcels, **Lake of the Woods** provides the lowest quality late-successional, spotted owl habitat. Over half of the area is in lake, and the remainder is heavily developed for recreation. Human activity, noise (cars and boats in summer, snowmobiles in winter) and light levels, and removal of standing dead trees and downed logs all reduce habitat effectiveness for spotted owls and most associated species. Thus, The No Action alternative is least favorable from a threatened and endangered species point of view.

Based on all indicators, the **Cold Springs** parcel contains the most favorable mix of conditions for spotted owls and other species dependent on late-successional forests, given all variables considered. This area is well connected to other LSR and favorable habitats and has less public use or adjacent activity than the other parcels. Nesting/roosting/foraging habitat is relatively highly connected at the landscape level on the Klamath Ranger District (USFS 1997). Barred owls have invaded the **Burton Butte** parcel, thus lowering its value to spotted owls. Therefore, from a holistic perspective, Alternative 1 would provide the most benefits to spotted owls by incorporating **Cold Springs** into the LSR network. The Forest Service's ability to manage Cold Springs as LSR exceeds the other areas.

Selection of any of the action alternatives would maintain connectivity at the landscape scale. However, under Alternative 2, the **Burton Butte** parcel would be managed as LSR. There are two opposing approaches to interpreting the value of each parcel as connecting habitat. One approach is to assume that connectivity is better if the alternative increases acreage of LSR adjacent to existing functioning habitat. The other is to value isolated areas of functional habitat surrounded by non-functioning areas higher, because they may provide "stepping stones" of late-successional forest that can be used by owls.

Because there are two approaches to managing for connectivity, there are two alternatives that best meet these approaches. Under the first approach, which addresses adjacency to NRF habitat, Alternative 1 is the preferred alternative. This would add 2,846 acres to LSR 227, which is the largest LSR on the Winema.

Under the second approach, which addresses "stepping stones" of habitat connecting larger areas, Alternative 2 is the preferred alternative. This would add 1,806 acres of LSR to critical habitat area OR-37.

All of the action alternatives would change land management designation, but would not authorize any ground-disturbing activities. Management of riparian habitats (Riparian Reserves) would be similar under all alternatives and differences between alternatives are not expected. Those species that are associated with riparian habitats (such as fish and Oregon spotted frog) would not see a change in habitat management as a result of changes in land management allocation.

Management direction for bald eagles and sensitive species would also not be affected by changes in land allocation. The bald eagle nest location near Lake of the Woods is managed under an approved Nest Management Plan, which would be in place whether the area was managed for developed recreation, or LSR.

The Winema National Forest Plan includes direction for management around rock habitats (talus, cliffs, caves etc) that protects a 200 foot zone adjacent to rock habitats. This would be in place regardless of land management allocation, and therefore species associated with these habitats would not be affected by a change in land management allocation.

Meadow habitats (such as those in Cold Springs) are also managed under Forest-wide direction and would not be affected by a change in land allocation.

The previous section on Vegetation discussed the potential differences in project design due to LSR designation for forest health and fire and fuels reduction treatments. These types of treatments may be appropriate for LSR, but would have more stringent requirements to ensure that LSR objectives and standards were met. This would have positive benefits on species dependent on late-successional forest. However, the extent of this positive effect is relatively small; the net increase in functional (nesting, roosting, foraging and dispersal) habitat in each alternative amounts to less than one percent of the 101,600 acres within LSR 227. No ground disturbing activities are proposed in any of the parcels. Cold Springs may be least likely to be treated in the future due to its remote location.

Analysis for the NWFP (FEIS pgs 177-190) found that the adopted system of late successional reserves, along with riparian protection, and retention of green trees, snags and coarse woody debris would be favorable to late successional associated species. The current condition of the LSR network is nearly identical to its condition when the NWFP was adopted. For the foreseeable future, Matrix lands will support large amounts of NRF providing substantial connectivity between LSR's. All action alternatives would increase nesting, roosting, foraging and dispersal habitat within LSR:

Table 11. Net Increase in NRF and Dispersal Acreage

Parcel	Net Increase Nesting, Roosting, Foraging and Dispersal Habitat Acres
LOW	0
Cold Springs	952
Burton Butte	579
Little Aspen	935

Species Determinations

Threatened and Endangered Species

Informal consultation has been initiated with the US Fish and Wildlife Service on the following threatened and endangered species determinations related to this proposal. Effects are common to all alternatives unless otherwise stated.

Table 12. Threatened and Endangered Species Determinations

Common Name	Determination	Rationale
Bald eagle <i>Haliaeetus leucocephalus</i>	No effect	Management of the nest at LOW is under an approved Nest Management Plan under all alternatives
Northern spotted owl <i>Strix occidentalis caurina</i>	Beneficial Effect for Alts 1, 2 and 3. No effect for No Action.	All action alternatives would improve management for habitat of spotted owl habitat. The No Action alternative would retain LOW as LSR even though it is the least functional of the four alternatives. However, management in the area would still be required to consider and manage for spotted owls.
Yellow-billed cuckoo <i>Coccyzus americanus</i>	No effect	Riparian habitats would be managed similarly under all alternatives.
North American lynx <i>Lynx canadensis</i>	No effect	Not expected to be present; not within the current range.
Mardon skipper butterfly <i>Polites mardon</i>	No effect	Nearest known site is about 30 miles north of LOW.
Shortnose sucker <i>Chasmistes brevirostris</i> Lost River sucker <i>Deltistes luxatus</i> Bull trout <i>Salvelinus confluentus</i>	No effect	None of these species are present in any of the four areas.

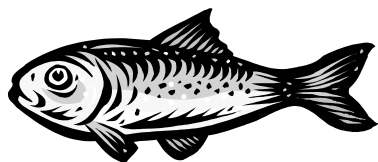
Sensitive Species

The following impact determinations apply to sensitive species in the project area. Additional information about threatened, endangered, sensitive and other special status species is in Appendix A. Table 13 lists sensitive species and impact determinations.

Table 13. Sensitive Wildlife Species and Determinations

Common Name	Determination	Rationale
Peregrine falcon <i>Falco peregrinus anatum</i>	No impact	Cliff and rocky habitats would be managed similarly under all alternatives.
Yellow rail <i>Leucosticte arctoa atrata</i>	No impact	No habitat
Horned grebe <i>Podiceps auritus</i>	No impact	No effect on potential for migratory use on Lake of the Woods
Red-necked grebe <i>Podiceps grisegena</i>	No impact	No effect on potential for migratory use on Lake of the Woods
Bufflehead <i>Bucephala albeola</i>	No impact	No effect on potential for migratory use on Lake of the Woods
Least bittern <i>Ixobrychus exilis</i>	No impact	No habitat
Harlequin duck <i>Histrionicus histrionicus</i>	No impact	No habitat in LOW and no documented nesting in any of the areas. Riparian habitats would be managed similarly under all alternatives.
Tri-colored blackbird <i>Agelaius tricolor</i>	No impact	No habitat
Pacific Fringe-tailed bat <i>Myotis thysanodes vespertinus</i> And Pacific Pallid bat <i>Antrozous pallidus pacificus</i>	Beneficial impact for Alts 1, 2 and 3. No impact for No Action.	All three action alternatives would improve management for LSR habitat. The No Action alternative would retain LOW as LSR even though it is the least functional of the four alternatives. However, management in the area would still be required to consider and manage for spotted for these sensitive species.
California wolverine <i>Gulo gulo luscus</i>	No impact	This species is largely affected by human uses in an area. Changes in management allocation should not result in increased human activities or affect potential to provide habitat for wolverines.

Pacific fisher <i>Martes pennanti</i>	Beneficial impact for Alts 1, 2 and 3. No impact for No Action.	All three action alternatives would improve management for LSR habitat. The No Action alternative would retain LOW as LSR even though it is the least functional of the four alternatives. However, management in the area would still be required to consider and manage for sensitive species.
Columbian (Oregon) spotted frog <i>Rana pretiosa</i>	No impact.	Riparian habitats would be managed similarly under all alternatives.
Northwestern pond turtle <i>Clemmys marmorata marmorata</i>	No impact.	No habitat
Klamath pebblesnail <i>Fluminicola n. sp. 1</i> Tall pebblesnail <i>Fluminicola n. sp. 2</i> Sinitsin Ramshorn <i>Vorticiflex klamathensis sisitsini</i>	No impact	These are all aquatic species and riparian habitats would be managed similarly under all alternatives.
Chance sideband <i>Monadenia chaceana</i> Crater Lake Tightcoil <i>Pritiloma arcticum crateris</i> Evening fieldslug <i>Deroceras hesperium</i>	Beneficial impact for Alts 1, 2 and 3. No impact for No Action.	These species are associated with rock, talus and moist habitats along drainages; these habitats would be managed similarly under all alternatives. Management in the area would still be required to consider and manage for these sensitive species.



Soils and Water

Soil condition and water quality within the Winema National Forest is described in several existing documents, including LSR Assessment, watershed analysis, LRMP FEIS, and the LOW water quality report. Discussions about soil and watershed management are not repeated in this EA because soils and watershed management direction would not change under any alternative.

No ground disturbing activities are proposed in the parcels at this time (the Spencer Timber Sale in the Burton Butte parcel is sold but not awarded and if awarded, could contribute to cumulative watershed effects). LSR standards and guidelines would tend to constrain ground-disturbing activities more than Matrix standards and guidelines but soils and water would be protected regardless of allocation.

The website for the Winema National Forest (<http://www.fs.fed.us/r6/winema/management/watersheds/index.shtml>) reveals several completed watershed analyses since the Northwest Forest Plan was adopted. The Spencer Pilot Watershed Analysis (1995) covers the watershed contained by Burton Butte on the west side and Little Aspen on the east side. The Rock, Cherry, and Nannie Creek Watershed Analysis report covers the Cold Springs area. The North Fourmile Watershed Analysis covers the Lake of the Woods Area and the Cold Springs drainage.

The Aquatic Conservation Strategy (ACS) applies to federal lands within the range of the northern spotted owl, including the analysis area. The Aquatic Conservation Strategy strives to maintain and restore ecosystem health at watershed and landscape scales to protect habitat for fish and other riparian-dependent species and resources and restore currently degraded habitats. All of the parcels except Burton Butte contain Riparian Reserves; Lake of the Woods has the greatest acreage in Riparian Reserves (approximately 1,600 acres out of 2,070); less than one percent of the acreage in Cold Springs and Little Aspen contain Riparian Reserves.

Under the Aquatic Conservation Strategy, Riparian Reserves are used to maintain and restore riparian structures and functions of intermittent streams, confer benefits to riparian-dependent and associated species other than fish, enhance habitat conservation for organisms that are dependent on the transition zone between upslope and riparian areas, improve travel and dispersal corridors for many terrestrial animals and plants, and provide for greater connectivity of the watershed (USDA/USDI 1994a and b). No changes to Riparian Reserve Standards and Guidelines would occur in any alternative.

A Water Quality Restoration Plan for the Upper Klamath Basin (USDA 2002) was prepared to fulfill a requirement of Section 303(d) of the Clean Water Act. The Water Quality Restoration Plan is on file and are available for public review at:

<http://www.fs.fed.us/r6/winema/management/tmdl/index.shtml>. In all alternatives, water quality would be managed in accordance with the recommendations in this plan.

Fisheries

Lake of the Woods is stocked and managed as a recreational fishery by Oregon Department of Fish and Wildlife. There are no threatened, endangered or sensitive fish species in Lake of the Woods. Lake of the Woods is outside of the Proposed Critical Habitat for endangered Lost River sucker (*Deltistes luxatus*) and shortnose sucker (*Chasmistes brevirostris*) and threatened bull trout (*Salvelinus confluentus*). The earliest report of fish stocking in Lake of the Woods was in 1913. Since that time, there have been thousands of rainbow trout, redband trout, brook trout, brown trout and kokanee salmon stocked in the lake. Crappie, bass, catfish, perch and carp were introduced in 1922. The lake was treated with rotenone in 1955 eliminating all fish. After treatment, rainbow trout, brook trout and kokanee salmon were stocked in the lake. Brown trout were introduced in 1986. Brown bullheads, chubs, black crappie, largemouth bass, and yellow perch have all been re-introduced illegally.

There are no known threatened, endangered, or sensitive aquatic species within the Cold Springs, Burton Butte or Little Aspen parcels. No sensitive species would be affected by any alternative. Fisheries management strategies and programs would be the same regardless of the designation of lands surrounding the riparian allocation. Therefore, management of fisheries and aquatic habitat values would not be expected to change under any of the project alternatives.

Table 14. Sensitive Fish Species and Determinations

Common Name	Determination	Rationale
Pit-Klam. Brook lamprey Goose Lake lamprey Klamath R. lamprey Pit sculpin Slender sculpin Pit roach Oregon Lakes tui chub Blue chub Klam. Largescale sucker Int. Redband trout	No impact.	The blue chub is the only species present. It is found in Lake of the Woods. Lake habitat and fisheries management strategies and programs not change under any alternative.

Recreation

Affected Environment

Based on the 2003-2007 Oregon Statewide comprehensive Outdoor Recreation Plan (2003), the most popular recreation activities in this region are sightseeing, picnicking, camping, hunting, fishing, running and walking, visiting cultural/historical sites, and nature study activities.

This study demonstrated that in this region of Oregon, the supply of the facilities for the following activities would not meet demand projected for 2007.

Picnicking, boat ramps, camping, trails for biking, hiking, cross-country skiing, horse riding, walking, running, snowshoeing, dog sledding, and snowmobiling.

Lake of the Woods

The Lake of the Woods parcel is coincident with the Lake of the Woods Recreation Area. The area is a fully developed, heavily used recreational area covering approximately 2,005 acres. Recreation has been occurring in this area for over 100 years.

Management of the recreation area is complicated by the LSR designation. However, the tract as a whole was found consistent or can be made consistent with the Winema National Forest Plan as amended by the Northwest Forest Plan (see

<http://www.fs.fed.us/r6/winema/management/analyses/recres/consistencydetermination.doc>.) The Late-Successional Reserve 227 Assessment was also reviewed and the tract was found to be consistent with or can be made consistent with the management practices approved in that assessment.

Recreational opportunities at the Lake of the Woods area include:

- Recreation Residence Sites

There are 218 recreational residences surrounding the Lake of the Woods. All of these are permitted for seasonal use only, no permanent residences are allowed. The first special use permit for recreational residence was issued in 1916. The recreation residencies have the potential to contribute up to 100,000 Recreational Visitor Days (RVD's). One Caretaker's cabin is within the recreation residence track. The Caretaker is the only full-time resident and provides security and emergency repairs to recreation residences.

- Organizational Camps

The three organizational camp permits are held at the Lake of the Woods. The Boy Scouts manage Camp McLoughlin, the Girl Scouts manage Camp Low Echo, and Camp Esther Applegate is managed by the Church of Jesus Christ of Latter-day Saints. The 1998 annual use at the organization camps was 12,800 RVD's.

- The Lake of the Woods Visitor Center/Work Center is located at the north end of the lake and is currently under special use permit to the Lake of the Woods Resort for employee housing.

- Lake of the Woods Resort

In 1927 a special use permit was issued for the resort. Facilities at the resort include RV and tent camping spots and 15 cabins on the 25-30 acre permit area. A restaurant, store and marina facilities provide additional guest services. The resort operates year round providing summer and winter recreation opportunities, although winter services are limited.

- Great Meadows Sno-Park

This area offers groomed trails and an open play area for snowmobiling. The sno-park provides parking for 150 vehicles. Use at Great Meadows in 1999 was estimated at 122,000 RVD's.

- Ichabod (Summer Home)Spring Sno-Park

This small sno-park is primarily used by Camp McLoughlin Boy Scout Group. The sno-park provides parking for 12 vehicles.

- Camping

The Aspen Point and Sunset are Forest campgrounds providing 126 campsites for Forest visitors. The campgrounds are full on weekends and on weekdays are below capacity levels. Activities offered at the campgrounds include camping, boating, swimming, fishing, hiking and picnicking. In 1999 the estimated camping use was 90,000 RVD's.

- Day Uses

A variety of day use opportunities are available at the Lake of the Woods. This includes swim/picnic areas at Aspen Point and Rainbow Bay, boat launch sites at Aspen Point, Rainbow Bay and Sunset. Rainbow Bay also has a snow park. Day use was estimated at 131,500 RVD's in 1999.

Currently the Lake of the Woods Recreation Area is at or over 300,000 RVD's, which is the capacity for a rural recreation experience as defined in the Winema Land and Resource Management Plan. However, the design capacity of the recreation facilities meets the recreation demand at an urban use level of 446, 000 RVD's.

The existence of recreation facilities has reduced the ability to manage for levels of snags and coarse woody debris typical of late successional forest. Snags adjacent to and in recreation developments are subject to immediate hazard tree removal. Recently, Forest employees identified approximately 200 hazard trees in the recreational residence portion of the LSR. The potential for further hazard tree removal is high with the acceleration of fungal decay in aging white fir.

Cold Springs

There is a trailhead for access to the Sky Lakes Wilderness just north of the Cold Springs analysis area. Currently there are no private in-holdings or adjacent private lands that could be developed in this area. A winter warming hut is located at Big Meadow. Summer recreational activities in this area include camping, hunting, swimming, hiking, biking, and fishing. An abundance of winter recreation takes place including snow-playing, cross-country skiing, and snowmobiling. Snowmobile trails in the Cold Springs area include Pelican Butte 4.6 miles, Cold Springs 12 miles, Big Meadow trail 0.8 miles, and Old Pelican Butte 6.5 miles. The Cold Springs snowmobile trail connecting Diamond Lake with the Lake of the Woods area runs through the Cold Springs analysis area. Hunting and wildlife viewing also occur in the area. The Cold Springs parcel contains a portion of an inventoried roadless area.

Burton Butte

Development of summer homes is occurring on a 147 acre parcel of private land adjacent to the Burton Butte area. There is potential that another tract of private land about 134 acres in size could also be developed for summer homes. Dispersed recreational use adjacent to the summer homes is occurring in the form of motorized recreation and equestrian use. The Pacific Crest National Scenic Trail (PCNST) is only half a mile away from this area. It is likely that some of the recreation residence owners are hiking the PCNST. Hunting and wildlife viewing also occur in the area. The Pederson winter trailhead is just outside of the analysis area to the west. This trailhead provides access for snowmobiling on the eleven mile long Pederson trail #22. The trailhead also provides access to the PCNST for cross-country skiing. The area is popular for Christmas tree gathering

Little Aspen

The majority of recreation activity in this area is during the winter. Snowmobiling and cross-country skiing are the dominant activities. Snow Machine Trail 15 is just to the west of the Little Aspen analysis area. Hunting and wildlife viewing also occur in the area. The area is popular for Christmas tree gathering. The Little Aspen parcel contains a portion of an inventoried roadless area (map on file).

Effects on Recreation Program Management

Recreation management within the Lake of the Woods parcel would become less complicated under all action alternatives. LSR standards overlay administrative site management standards and tend to constrain some site maintenance or improvement activities. The Northwest Forest Plan Standards and Guidelines for LSR states, "Development of new facilities that may adversely affect Late-Successional Reserves should not be permitted. New development proposals that address public needs or provide significant public benefits, such as power-lines, pipelines, reservoirs, recreation sites, or other public works projects will be reviewed on a case-by-case basis and may be approved when adverse effects can be minimized and mitigated. These will be planned to have the least possible adverse impacts on Late-Successional Reserves. Developments will be located to avoid degradation of habitat and adverse effects on identified late-successional species. Existing developments in Late-Successional Reserves such as campgrounds, recreation residences, ski areas, utility corridors, and electronic sites are considered existing uses with respect to Late-Successional Reserve objectives, and may remain, consistent with other standards and guidelines. Routine maintenance of existing facilities is expected to have less effect on current old-growth conditions than development of new facilities. Maintenance activities may include felling hazard trees along utility rights-of-way, trails, and other developed areas."

The Northwest Forest Plan also states, "Use adjustment measures such as education, use limitations, traffic control devices, or increased maintenance when dispersed and developed recreation practices retard or prevent attainment of Late-Successional Reserve objectives."

An analysis regarding Lake of the Woods was completed and the ongoing uses were found consistent with LSR management direction. However, future options for site improvement and maintenance could be compromised if no action is taken to remove LSR status from the parcel around the lake.

None of the Matrix areas considered for LSR exchange contain developed recreation sites that could conflict with LSR designation. No ground disturbing activities are currently being in planned within the roadless areas within the Cold Springs or Little Aspen parcels.

No Action

Implementation of the No Action alternative would perpetuate the existing conflicts of managing the Lake of the Woods developed recreation area under the designation of late successional reserve (LSR). The recreation use would continue in this area, which in turn decreases the quality of the LSR, since hazard trees would have to be removed, and firewood gathering would continue. Additional recreational facilities could be built in this area to meet recreation demand if approved by the Regional Ecosystem Office.

Recreation activities would continue as currently managed for Cold Springs, Burton Butte, and Little Aspen areas. Additional facilities could be built in these areas to meet recreation demand.

Alternative 1

Lake of the Woods

Under Alternative 1, the Forest could implement vegetation management strategies in the Lake of the Woods Recreation Area needed to reduce hazard trees, and improve public safety. Recreationists would be able to gather more fire wood than under the No Action Alternative.

The resort could potentially be able to expand their facilities to meet existing recreational demand. This could lead to an increase in RVD's. This would require additional NEPA analysis and revision of the existing special use permit.

Other recreation activities would continue.

Cold Springs

The Forest would continue to provide the existing recreation activities in the Cold Springs Area, maintaining the current recreation use levels. Development of new recreation facilities would be reviewed on a case by case basis by the Regional Ecosystem Office. New proposals may be approved when adverse effects can be minimized and mitigated. If no new facilities are approved by the Regional Ecosystem Office, recreation demand might not be met. The existing recreation opportunity spectrum (ROS) class and associated landscape character would be maintained by removing the area from Matrix. Recreation activities would occur in a more natural appearing setting, providing a higher quality recreation experience than the potentially modified landscape under the matrix allocation. Semi-Primitive non-motorized recreational opportunities would be emphasized in summer, and semi-primitive motorized recreation opportunities would be emphasized in winter.

Burton Butte and Little Aspen

Recreation activities would continue as currently managed for Burton Butte, and Little Aspen areas. As recreation demand increases, there may be opportunities for increased recreational development.

Alternative 2

Lake of the Woods

Effects would be the same as Alternative 1.

Burton Butte

The Forest would continue to provide the existing recreation activities in the Burton Butte analysis area, maintaining the current recreation use levels. Development of new recreation facilities would be reviewed on a case by case basis by the Regional Ecosystem Office. New proposals may be approved when adverse effects can be minimized and mitigated. If no new facilities are approved by the Regional Ecosystem Office, recreation demand might not be met. The existing ROS class and associated landscape character would be maintained by removing the area from Matrix. Recreation activities would occur in a more natural appearing setting, providing a higher quality recreation experience than the potentially modified landscape under the matrix allocation. Primitive non-motorized recreational opportunities would be emphasized. Private land development is envisioned adjacent to Burton Butte, which could result in future conflicts with LSR designation (see Kurt Smith scoping comment: “The [Burton Butte] area is being influenced by new residences being developed...In a few short years the Klamath Ranger District may face many of the same problems you have at Lake of the Woods...Buck Lake adjacent to Burton Butte has a very unique opportunity...”).

Cold Springs and Little Aspen

Recreation activities would continue as currently managed for Cold Springs and Little Aspen analysis areas. As recreation demand increases, there may be opportunities for increased recreational development.

Alternative 3

Lake of the Woods

Effects would be the same as Alternative 1.

Little Aspen

The Forest would continue to provide the existing recreation activities in the Little Aspen analysis area, maintaining the current recreation use levels. Development of new recreation facilities would be reviewed on a case-by-case basis by the Regional Ecosystem Office. New proposals may be approved when adverse effects can be minimized and mitigated. If no new facilities were approved by the Regional Ecosystem Office, recreation demand might not be met. The existing ROS class and associated landscape character would be maintained by removing the area from Matrix. Recreation activities would occur in a more natural appearing setting, providing a higher quality recreation experience than the potentially modified landscape under the matrix allocation. Primitive non-motorized recreational opportunities would be emphasized.

Burton Butte and Cold Springs

Recreation activities would continue as currently managed for Burton Butte, and Little Aspen areas. As recreation demand increases, there may be opportunities for increased recreational development.

Grazing

The Northwest Forest Plan includes specific guidance related to grazing management within Late-Successional Reserves.

No Action and Alternatives 1 and 3 would not result in any potential changes in management direction related to grazing. This is because no allotments are currently operating or planned within the Lake of the Woods, Cold Springs or Little Aspen parcels.

A grazing allotment is active within the Burton Butte parcel. If Alternative 2 were selected, the annual allotment management plan would have to be evaluated to ensure that grazing does not interfere with the LSR management or any other resource.

Cumulative Effects

The previous sections disclose the direct and indirect effects of each alternative on management direction and programs on the Winema National Forest. The IDT considered whether other past, ongoing or future planned project that may increase the significance of these effects.

Timber sale activity has been conducted on the Forest for many years. The first large scale harvest occurred in 1910, with extensive activity across the Forest until the last decade.

Extensive areas were often selectively cut or salvaged following storms or insect outbreaks. The tables in the vegetation section display current condition; before 1910, a greater proportion of the forest contained large trees and favorable late-successional conditions. Several areas adjacent to the exchange parcels have been previously harvested with timber sale activities associated with the Rock Timber Sale (1993), the Roll Timber Sale (1995), and the Stony Eagle Timber Sale (1994).

A few foreseeable future projects have been identified within the Lake of the Woods (LOW) parcel. The Winema National Forest is currently analyzing a proposal to re-issue 218 modified Recreation Residence Term Special Use Permits to the same people holding the current 218 permits at Lake of the Woods. An EA was prepared and circulated for comment for 30-days and a decision is expected in 2004.

The Recreation Residence Special Use Permit EA states: "Since current Forest Plan direction does not allow for expansion of the residence tract, other options will need to be explored (e.g. new/larger campgrounds, expanded resort facilities, etc.) to satisfy future demand." The Permit EA also states: "No new developed recreation activities, e.g. campground or resort expansions, are anticipated within the next 10 years in the vicinity of Lake of the Woods."

In addition, a boat ramp at LOW is being considered for improvement, and communication utility lines are up for re-permitting. These projects are being planned to follow current management direction.

If LOW is removed from LSR, new recreation development proposals would no longer have to comply with LSR management direction. Any such proposals would still be subject to environmental review and would still have to comply with Riparian Reserve standards and guidelines within 300 feet of the shoreline. The cumulative effects of such a potential future proposal are too speculative to analyze at this time.

No foreseeable actions are planned in the Cold Springs or Little Aspen areas. Three commercial thinning units within the Spencer Timber Sale area (1998 decision) lie in the Burton Butte parcel.

The Spencer Timber Sale was offered and had an apparent high bidder in 1999 but could not be awarded due to survey and management issues (Northwest Forest Plan compliance). The public has also expressed that new development may be planned for private lands adjacent to Burton Butte (see Kurt Smith scoping letter).

Commercial thinning is a type of silvicultural treatment that may occur under both Matrix and Late-Successional Reserves, however Late-Successional Reserves would have more stringent standards for protecting late-successional characteristics and habitat. The Matrix land allocation does not exclude regeneration harvest, although regeneration harvesting has not been proposed for the last several years.

No other Forest Plan amendments are being planned at this time (see Winema NF Schedule of Proposed Actions). The Northwest Forest Plan has been amended by two decisions signed March 2004: the Record of Decision Amending Resource Management Plans for Seven Bureau of Land Management Districts and Land and Resource Management Plans for Nineteen National Forests Within the Range of the Northern Spotted Owl (*Decision to Clarify Provisions Relating to the Aquatic Conservation Strategy*) and the Record of Decision to Remove the Survey and Manage Mitigation Measure.

The effects of these regional amendments at the Forest scale and throughout the range of the northern spotted owl were disclosed in the environmental impact statements for these documents. The scale of Lake of the Woods Forest Plan amendment is extremely small in comparison with the scale of these regional amendments; no cumulative effects beyond those disclosed in the regional documents are discernable.

Effects Relative to Significance Factors

1. Beneficial and adverse impacts

The action alternatives are associated with limited beneficial and adverse effects as described throughout the EA.

The beneficial effects of the action alternatives include increased success managing late-successional reserves on the Winema National Forest. Conditions favorable to spotted owls would be enhanced by all action alternatives. Another beneficial effect of the action alternatives is increased ability to manage the Lake of the Woods parcel for developed recreation without the overriding objective of late-successional habitat improvement.

The adverse effects of this alternative are minor and affect a small portion of the Winema National Forest. Between 42 and 47 million board feet of timber would not be programmed, a reduction of about 2 percent of the total Matrix timber base on the Winema National Forest. No adverse social impacts would be expected from this loss of timber.

In addition, the action alternatives could complicate future forest health, fire and fuels, and other vegetation management projects.

2. The degree to which the proposed action affects public health or safety.

The action alternatives would improve management of Lake of Woods area in terms of public health and safety. LSR management direction complicates vegetation management within the recreation site.

3. Unique characteristics of the geographic area.

Many special areas exist within and adjacent to the four parcels. No unique characteristics of the Winema National Forest would be affected in any alternative.

4. The degree to which the effects on the human environment are likely to be highly controversial.

This proposal is not associated with any controversial effects.

5. The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

6. The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration

Non-significant Forest Plan amendments by nature will not involve uncertain, unique or unknown risks and avoid creating precedents for future action. To the extent that land allocation provides management direction for site-specific project implementation, some differences in future actions would likely occur. These future actions have not been proposed. Effects of future actions would be disclosed in an appropriate NEPA document.

7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.

Cumulative effects are discussed in the previous section. These effects are limited in scale and scope.

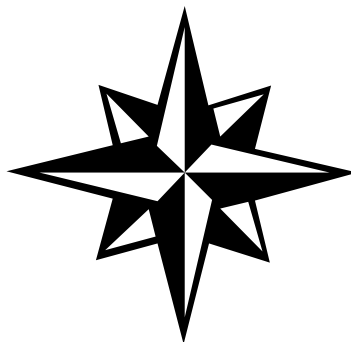
8. The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places, or may cause loss or destruction of significant scientific, cultural, or historical resources.

9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

None of the action alternatives approve ground disturbance, nor would any alternative adversely affect historic places or cultural resources, or any special status species. Some beneficial effects are expected (see table x for species determinations).

10. Whether the action threatens a violation of Federal, State, or local law or other requirements imposed for the protection of the environment.

No Federal, State or local laws or Forest Service land management policies would be violated with this proposal. A non-significant amendment to the Winema National Forest would occur, and future actions would be designed consistent with the amended plan.



CONSULTATION AND COORDINATION

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Jan Spencer – Recreation Specialist

Federal State and Local Agencies Consulted

Regional Ecosystem Office

LSR Working Group

Klamath Province Advisory Committee

US Fish and Wildlife Service

Bureau of Land Management

Indian Tribes Consulted

The Klamath Tribes

Scoping Input

All scoping input is available on line at
<http://www.fs.fed.us/r6/winema/management/analyses/lowlsr/>.

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MAPS

The following maps are appended to this EA:

Existing Land Allocations

Alternative 1

Alternative 2

Alternative 3